

CALIFORNIA HIGH-SPEED TRAIN

Project Environmental Impact Report/Environmental Impact Statement

FINAL

Merced to Fresno Section
Project EIR/EIS

Volume III:

Section D2 – Alignment Plans
BNSF Alternative with Ave 21 Wye

April 2012



CALIFORNIA
High-Speed Rail Authority



U.S. Department of Transportation
Federal Railroad Administration

VOLUME 1 - GENERAL & TRACK ALIGNMENT

DRAWING No.	REV No.	DRAWING DESCRIPTION
		VOLUME 1A - GENERAL
GE-D0001		PACKAGE 1A - TITLE SHEET
GE-A0001		PACKAGE 1A - GENERAL - INDEX OF DRAWINGS
TT-B0001		PACKAGE 1A - GENERAL - NOTES
VS-C0001		PACKAGE 1A - GENERAL - SURVEY CONTROL DATA - SHEET 1 OF 4
VS-C0002		PACKAGE 1A - GENERAL - SURVEY CONTROL DATA - SHEET 2 OF 4
VS-C0003		PACKAGE 1A - GENERAL - SURVEY CONTROL DATA - SHEET 3 OF 4
VS-C0004		PACKAGE 1A - GENERAL - SURVEY CONTROL DATA - SHEET 4 OF 4
		VOLUME 1B - TRACK ALIGNMENT
TT-B0001		PACKAGE 1A - TRACK GUIDEWAY - KEY MAP
TT-D3001		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3002		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3003		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3004		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3005		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3006		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3007		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3008		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
TT-D3009		PACKAGE 1A - TRACK GUIDEWAY - TYPICAL SECTIONS
CB3010		FRESNO SUBSECTION - ALIGNMET F1 - CROSS SECTIONS
CB3011		FRESNO SUBSECTION - ALIGNMET F1 - CROSS SECTIONS
TT-D0001		PACKAGE 1A - TRACK GUIDEWAY - HORIZONTAL ALIGNMENT DATA
TT-D1000		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10535+00 TO 10554+00
TT-D1001		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10554+00 TO 10582+00
TT-D1002		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10582+00 TO 10610+00
TT-D1003		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10610+00 TO 10638+00
TT-D1004		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10638+00 TO 10666+00
TT-D1005		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10666+00 TO 10694+00
TT-D1006		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10694+00 TO 10722+00
TT-D1007		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10722+00 TO 10750+00
TT-D1008		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10750+00 TO 10778+00
TT-D1009		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10778+00 TO 10806+00
TT-D1010		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10806+00 TO 10834+00
TT-D1011		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10834+00 TO 10862+00
TT-D1012		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10862+00 TO 10890+00
TT-D1013		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10890+00 TO 10918+00
TT-D1014		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10918+00 TO 10946+00
TT-D1015		PACKAGE 1A - TRACK GUIDEWAY - PLAN AND PROFILE - STA. 10946+00 TO 10974+00
CB1657		FRESNO SUBSECTION - ALIGNMET F1 - STA. 257+24.56 TO 261+00
CB1658		FRESNO SUBSECTION - ALIGNMET F1 - STA. 261+00 TO 275+00

CB1659		FRESNO SUBSECTION - ALIGNMET F1 - STA. 275+00 TO 289+00
CB1160		FRESNO SUBSECTION - ALIGNMET F1 - STA. 289+00 TO 303+00
CB1161		FRESNO SUBSECTION - ALIGNMET F1 - STA. 303+00 TO 317+25
		TT-D0016 TO TT-D1029 NOT USED
TT-D1030		PACKAGE 1A - SJVRR SOUTH SPUR - PLAN AND PROFILE - STA. 0+00 TO STA. 8+68.74

REV	DATE	BY	CHK	APP	DESCRIPTION	DESIGNED BY	DRAWN BY	PROPOSED PRELIMINARY DESIGN	NOT FOR CONSTRUCTION
					02/01/2012	A. SHIELDS	A. SHIELDS		

CH2MHILL



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION**
PACKAGE 1A
GENERAL
INDEX OF DRAWINGS

CONTRACT NO.
DRAWING NO.
SCALE
SHEET NO.

GE-A0001
NONE

GENERAL NOTES

A. GENERAL

1. IN-SCOPE AND NOT IN-SCOPE ITEMS ARE IDENTIFIED IN THE SCOPE OF WORK ATTACHMENT (ELEMENTS MATRIX + SCOPING TYPICAL SECTIONS)
2. REFER TO SCOPE OF WORK DOCUMENTATION IN THE PROCUREMENT PACKAGE FOR SCOPE REQUIREMENTS. FINAL DESIGN AND DIMENSIONS SHALL BE BASED ON DESIGN CRITERIA, DIRECTIVE DRAWINGS AND STANDARD DRAWING REQUIREMENTS.

B. CONTROL SURVEY AND MAPPING:

1. NAD 83 (NSRS2007), (1991.35)CALIFORNIA COORDINATE SYSTEM DATUM SHALL BE USED AS HORIZONTAL COORDINATE VALUES.
2. NAVD 88 VERTICAL DATUM SHALL BE USED AS VERTICAL DATUM.
3. MAPPING SHALL BE BASED ON CALIFORNIA COORDINATE SYSTEM (CCS 83) IN US CUSTOMARY UNITS.
4. NETWORK OF CONTROL SURVEY MONUMENTS WAS ESTABLISHED AT TWO MILE INTERVALS ALONG THE CHSTP ALIGNMENT. THESE CONTROL MONUMENTS SHALL BE USED IN FUTURE SURVEYS TO ENSURE THAT SURVEY ACTIVITIES ARE BASED ON THE SAME ADJUSTMENT POSITIONS AND EPOCH THAT TRANSITIONS BETWEEN ZONES OF THE CALIFORNIA COORDINATE SYSTEM ARE UNIFORM AND CORRECT.

TRACK GENERAL NOTES:

A. GENERAL TRACK NOTES:

1. THE GENERAL BASIS FOR TRACK STANDARDS AND MATERIALS SHALL BE THE AREMA MANUAL.
2. TRACK AND TRACK COMPONENTS SHALL BE DESIGNED AND FABRICATED TO PERFORM UNDER THE PREVAILING AND EXTREME CLIMATIC AND ENVIRONMENTAL CONDITIONS OCCURRING WITHIN THE GEOGRAPHIC EXTENT OF THE SYSTEM.
3. THE PROFILE IS CARRIED ON THE TOP OF LOWER RAIL THROUGH HORIZONTAL CURVES AND SPIRALS FOR THE DESIGNATED TRACK.
4. THE LENGTHS OF LINES ARE BASED ON CENTER OF TRACK ALIGNMENT.
5. UNLESS SEPARATE TRACK PROFILES ARE GIVEN, TRACK PARALLEL TO THE DESIGNATED TRACK ARE AT THE SAME TOP OF RAIL ELEVATIONS PROJECTED ON EITHER PERPENDICULAR OR RADIAL LINES FROM THE DESIGNATED TRACK CENTERLINES.
6. BALLASTED TRACKS ARE GENERALLY PREFERRED FOR YARD TRACKS. DESIGNERS SHALL FOLLOW THE REQUIREMENTS ASSOCIATED WITH CONSTRUCTION OF BALLASTED TRACK IN THE CALIFORNIA HIGH SPEED TRAIN DESIGN MANUAL.
7. DIMENSIONS SHOWN ON THE DESIGN DRAWINGS WERE DEVELOPED BY PRELIMINARY ENGINEERING AND FINAL DIMENSIONS WILL BE DETERMINED ON THE FINAL TRACK PLANS BY THE DESIGN BUILDER.
8. "ORIGINAL GROUND" SHOWN ON CROSS SECTIONS REFERS TO THE APPROXIMATE EXISTING GROUND LINE AT THE DESIGNATED CENTERLINE, BASELINE, LAYOUT LINE OR SECTION LINE.

REV	DATE	BY	CHK	APP	DESCRIPTION	DESIGNED BY A. SHIELDS	DRAWN BY A. SHIELDS	CHECKED BY A. BOONE	IN CHARGE A. BOONE	DATE 02/01/2012

PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION

AECOM
Technical Services, Inc.
2020 L Street, Suite 300
Sacramento, CA 95811
CH2MHILL



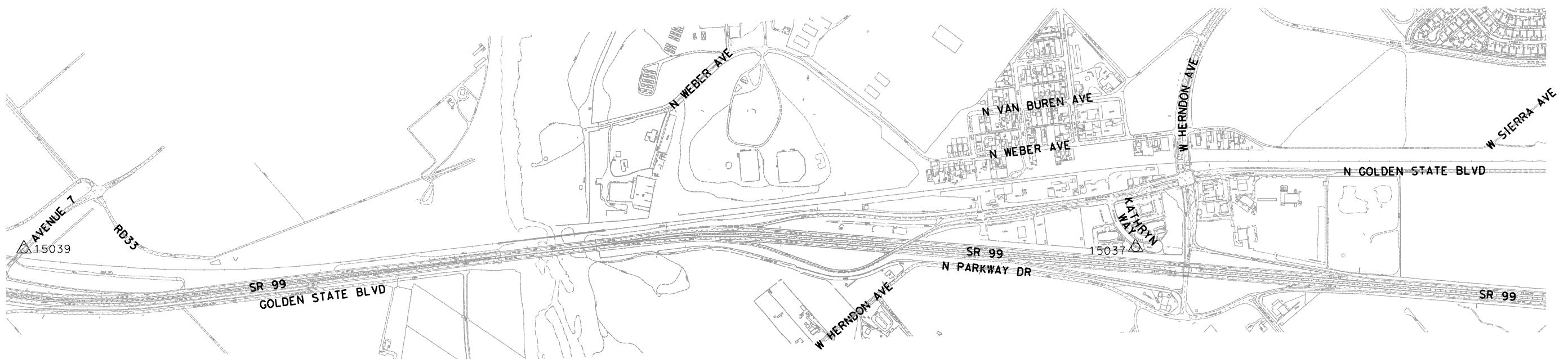
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION**
PACKAGE 1A
TRACK GUIDEWAY
GENERAL NOTES

CONTRACT NO.
DRAWING NO.
SCALE
SHEET NO.

TT-B0001
NONE
1

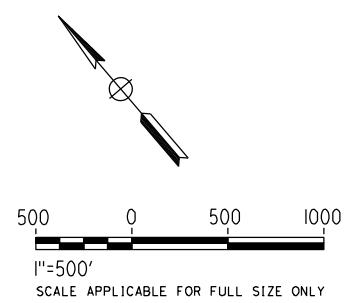
NOTES:

1. HORIZONTAL CONTROL DATUM:
THE HORIZONTAL GRID COORDINATES SHOWN HEREIN ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD 83), CALIFORNIA STATE PLANE COORDINATE SYSTEM, ZONE IV.
2. VERTICAL CONTROL DATUM:
THE VERTICAL DATUM FOR THE ELEVATIONS SHOWN HEREIN ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. PROJECTION:
LAMBERT CONIC PROJECTION



HORIZONTAL AND VERTICAL CONTROL INFORMATION

POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
15037	PB CONTROL: S182-P 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONCRETE PIER, STAMPED "CHSRA S182P LS 4430 2010"	2187855.88	6292923.69	300.64
15039	NGS CONTROL: DG9697	2194533.009	6285098.921	318.89

1"=500'
SCALE APPLICABLE FOR FULL SIZE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION
					01/09/2012

DESIGNED BY
A. SHIELDS
DRAWN BY
F. DeMARCO
CHECKED BY
S. WONG
IN CHARGE
A. BOONE
DATE
01/09/2012

PROPOSED
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NOT FOR
CONSTRUCTION

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Sacramento, CA 95811
CH2MHILL



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION**
PACKAGE 1A
GENERAL
SURVEY CONTROL DATA
SHEET 1 OF 4

CONTRACT NO.
DRAWING NO.
VS-C0001
SCALE
AS SHOWN
SHEET NO.

NOTES:**1. HORIZONTAL CONTROL DATUM:**

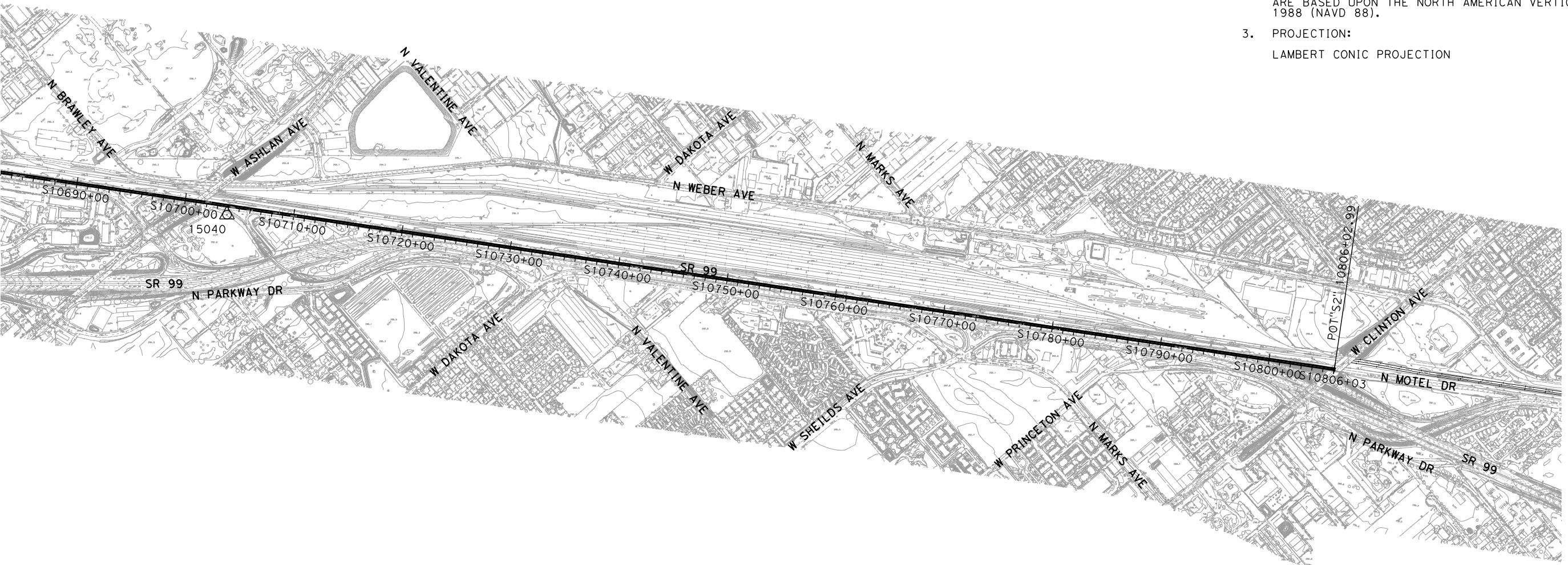
THE HORIZONTAL GRID COORDINATES SHOWN HEREIN ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). CALIFORNIA STATE PLANE COORDINATE SYSTEM, ZONE IV.

2. VERTICAL CONTROL DATUM:

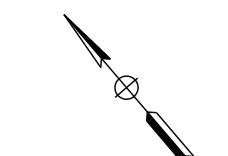
THE VERTICAL DATUM FOR THE ELEVATIONS SHOWN HEREIN ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

3. PROJECTION:

LAMBERT CONIC PROJECTION

**HORIZONTAL AND VERTICAL CONTROL INFORMATION**

POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
15040	NGS CONTROL: AC6102	2172846.932	6309610.265	292.45



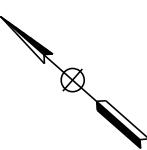
500 0 500 1000
1"=500'
SCALE APPLICABLE FOR FULL SIZE ONLY

DESIGNED BY A. SHIELDS	PROPOSED PRELIMINARY DESIGN	AECOM Technical Services, Inc. 2020 L Street, Suite 300 Sacramento, CA 95811	CH2MHILL	CALIFORNIA HIGH-SPEED TRAIN PROJECT SIERRA SUBDIVISION PACKAGE 1A GENERAL SURVEY CONTROL DATA SHEET 2 OF 4	CONTRACT NO. DRAWING NO. VS-C0002 SCALE AS SHOWN SHEET NO.
DRAWN BY F. DeMARCO	NOT FOR CONSTRUCTION				
CHECKED BY S. WONG					
IN CHARGE A. BOONE					
DATE 02/01/2012					
REV	DATE	BY	CHK	APP	DESCRIPTION

NOTES:

1. FOR LOCATION OF CONTROL POINT # 15037 (S182P)
SEE SHEET VS-C001

FOR LOCATION OF CONTROL POINT # S193P
SEE SHEET VS-C0004



500 0 500 1000
1"=500' HOR
SCALE APPLICABLE FOR FULL SIZE ONLY

REV	DATE	BY	CHK	APP	DESCRIPTION	12/08/11

DESIGNED BY
S. CHRISTENSEN
DRAWN BY
S. AVILES
CHECKED BY
J. LABANOWSKI
IN CHARGE
G. HORTON
DATE

PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION

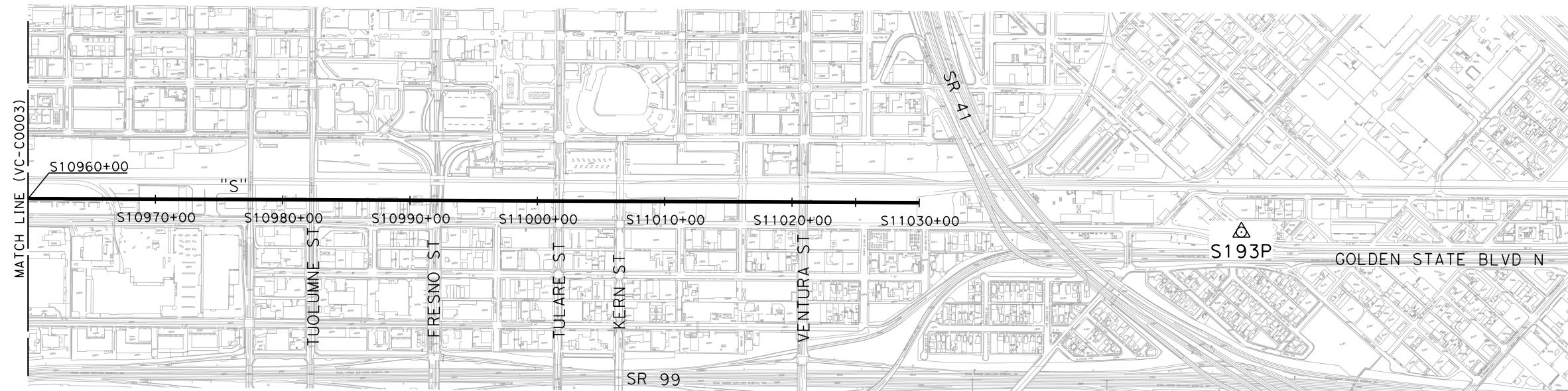


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION**
PACKAGE 1A
GENERAL
SURVEY CONTROL DATA
SHEET 3 OF 4

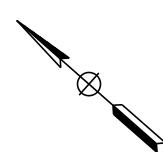
CONTRACT NO.
DRAWING NO.
VS-C0003
SCALE
AS SHOWN
SHEET NO.

NOTES:

1. DATA SHOWN HEREON IS BASED ON SURVEY CONTROL MONUMENT DATA SHEETS AND MAP ON FILE IN THE OFFICE OF THE CHSRA
2. HORIZONTAL CONTROL DATUM:
THE HORIZONTAL GRID COORDINATES SHOWN HEREIN ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD83). CALIFORNIA STATE PLANE COORDINATE SYSTEM, ZONE IV, US SURVEY FEET
3. VERTICAL CONTROL DATUM:
THE VERTICAL CONTROL DATUM FOR THE ELEVATIONS SHOWN HEREIN ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), US SURVEY FEET
4. PROJECTION:
LAMBERT CONIC PROJECTION



POINT #	DESCRIPTION	N	E	ELEV	LOCATION
S193P	FOUND STANDARD CHSRA 2-1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONCRETE PIER STAMPED "S193P LS4430 2010"	ZONE 4		286.04	IN THE CITY OF FRESNO, COUNTY OF FRESNO, 450 FEET SOUTHERLY ALONG CHERRY AVENUE FROM THE INTERSECTION OF CALIFORNIA AVENUE, 7.8 FEET WESTERLY OF THE WEST CURB FACE OF CHERRY AVENUE, 11.8 FEET NORTHEASTERLY OF THE NORTHEASTERLY CURB FACE OF G STREET.

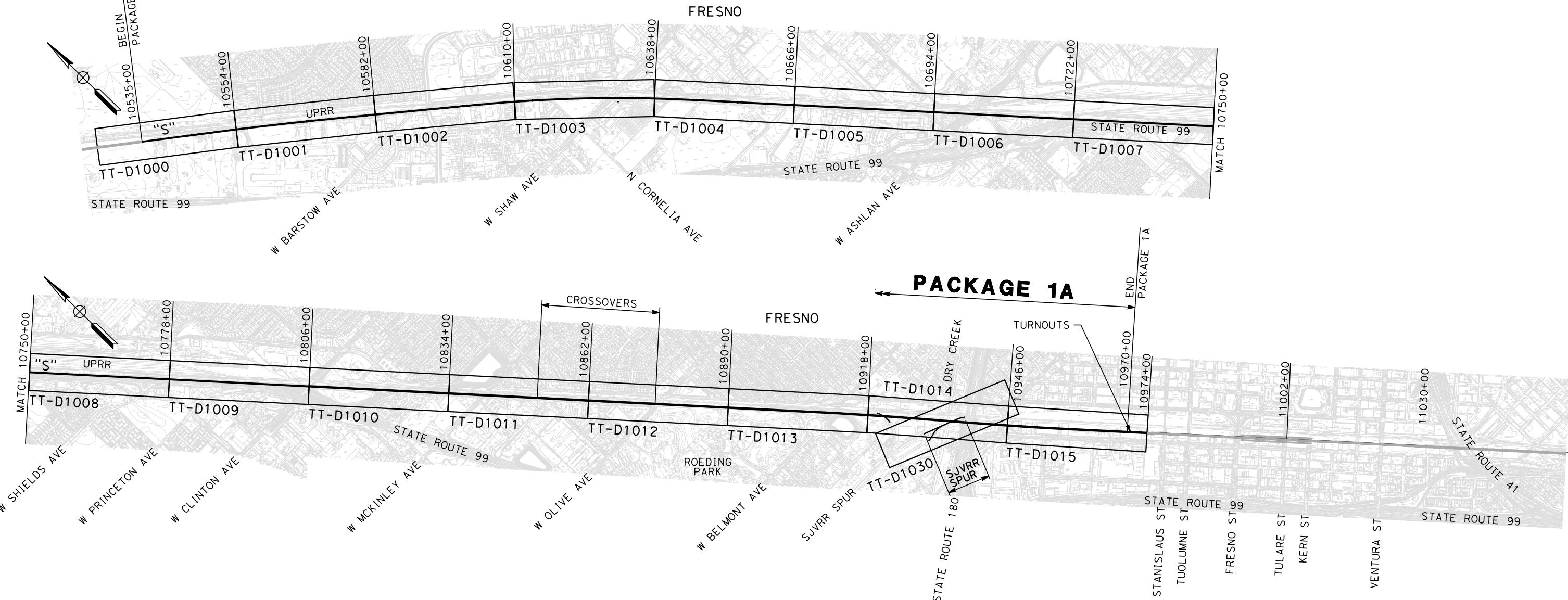


500 0 500 1000
1"=500' HOR
SCALE APPLICABLE FOR FULL SIZE ONLY

					DESIGNED BY S. CHRISTENSEN DRAWN BY S. AVILES CHECKED BY J. LABANOWSKI IN CHARGE G. HORTON DATE 12/08/11	PROPOSED PRELIMINARY DESIGN NOT FOR CONSTRUCTION	 CALIFORNIA HIGH-SPEED TRAIN	CALIFORNIA HIGH-SPEED TRAIN PROJECT SIERRA SUBDIVISION PACKAGE 1A GENERAL SURVEY CONTROL DATA SHEET 4 OF 4	CONTRACT NO. DRAWING NO. VS-C0004 SCALE AS SHOWN SHEET NO.	
REV	DATE	BY	CHK	APP	DESCRIPTION					

PACKAGE 1

REFER TO SCOPE OF WORK DOCUMENTATION IN THE PROCUREMENT PACKAGE FOR SCOPE REQUIREMENTS. FINAL DESIGN AND DIMENSIONS SHALL BE BASED ON DESIGN CRITERIA MANUAL, DIRECTIVE DRAWINGS, AND STANDARD DRAWINGS REQUIREMENTS.

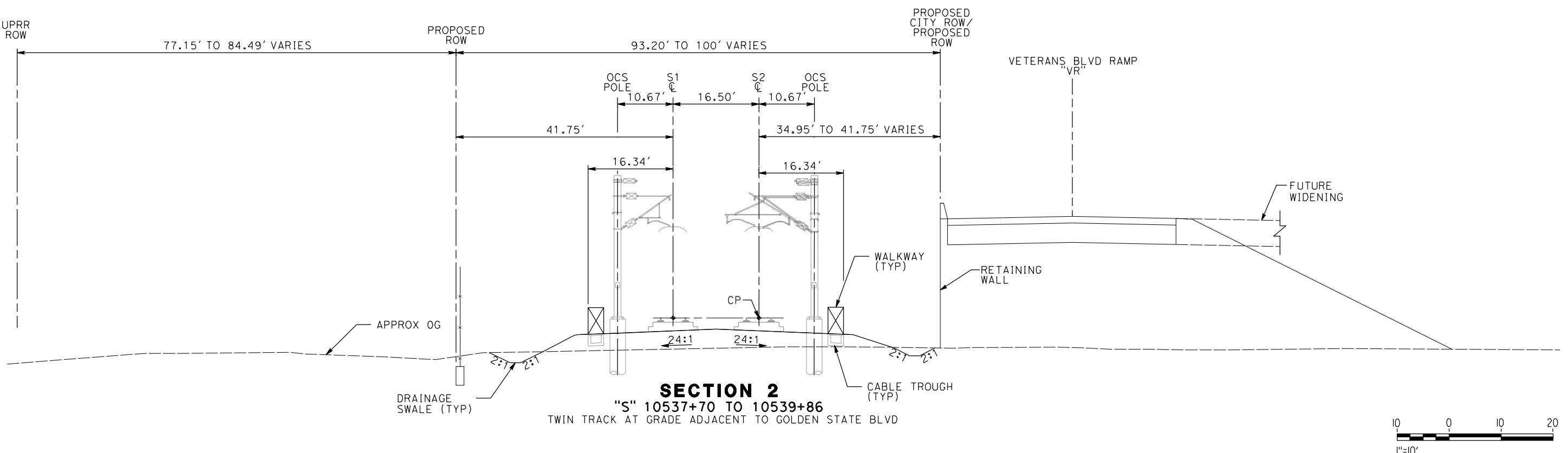
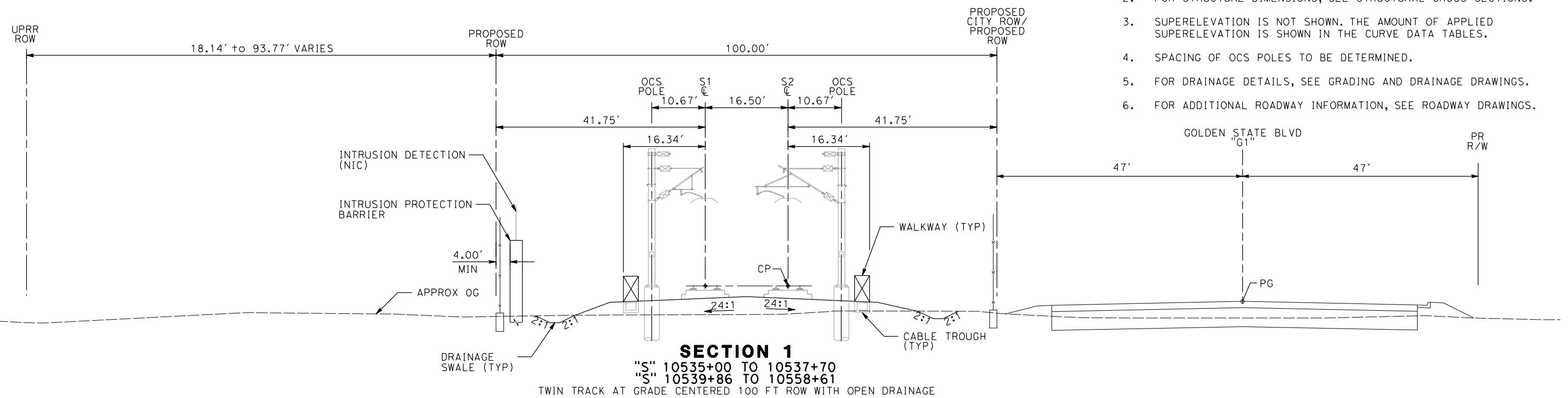


1000 0 1000 2000

$l=1000'$

SCALE APPLICABLE FOR FULL SIZE ONLY

					DESIGNED BY K. SEYMOUR	PROPOSED PRELIMINARY DESIGN NOT FOR CONSTRUCTION	  CALIFORNIA HIGH-SPEED RAIL AUTHORITY	CALIFORNIA HIGH-SPEED TRAIN PROJECT SIERRA SUBDIVISION PACKAGE 1A TRACK GUIDEWAY KEY MAP	CONTRACT NO.	
				DRAWN BY P. TONKIN						DRAWING NO. TT-B0001
				CHECKED BY D. HUNT						SCALE AS SHOWN
				IN CHARGE R. COFFIN						SHEET NO.
				DATE 02/17/12						
REV	DATE	BY	CHK	APP	DESCRIPTION					

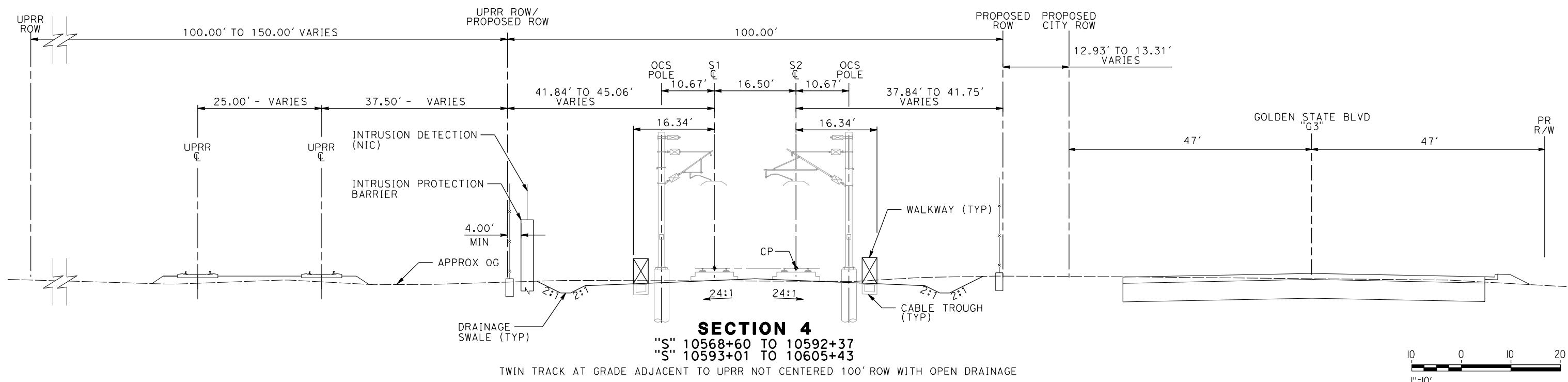
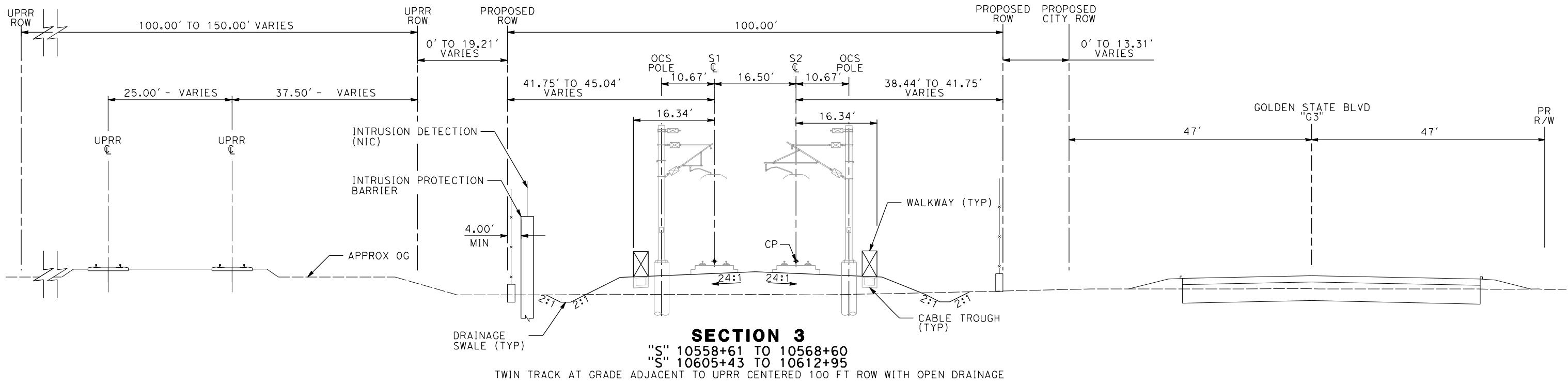


REV	DATE	BY	CHK	APP	DESCRIPTION
					01/09/2012

DESIGNED BY A. SHIELDS	PROPOSED PRELIMINARY DESIGN	AECOM Technical Services, Inc. 2020 L Street, Suite 300 Sacramento, CA 95811	CALIFORNIA HIGH-SPEED RAIL AUTHORITY
DRAWN BY H. SULLIVAN	NOT FOR CONSTRUCTION		
CHECKED BY A. BOONE			
IN CHARGE A. BOONE			
DATE 01/09/2012			

CONTRACT NO.
DRAWING NO. TT-D3001
SCALE AS SHOWN
SHEET NO.

**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION**
 PACKAGE 1A
 TRACK GUIDEWAY
 TYPICAL SECTIONS



ED BY
SHIELDS
BY
JULIVAN
ED BY
DOONE
GE
DOONE
1/09/2012

**PROPOSAL
PRELIMINARY
DESIGN
NOT FINISHED
CONSTRUCTION**

AECOM
Technical Services, Inc.
2020 L Street, Suite 300
Sacramento, CA 95811
CH2MHILL





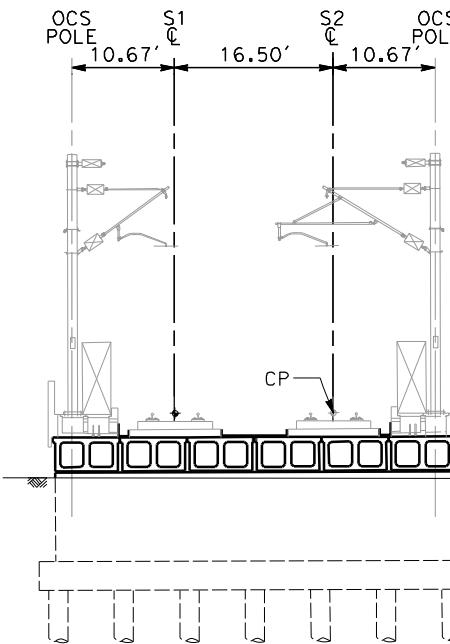
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUIDEWAY
TYPICAL SECTIONS**

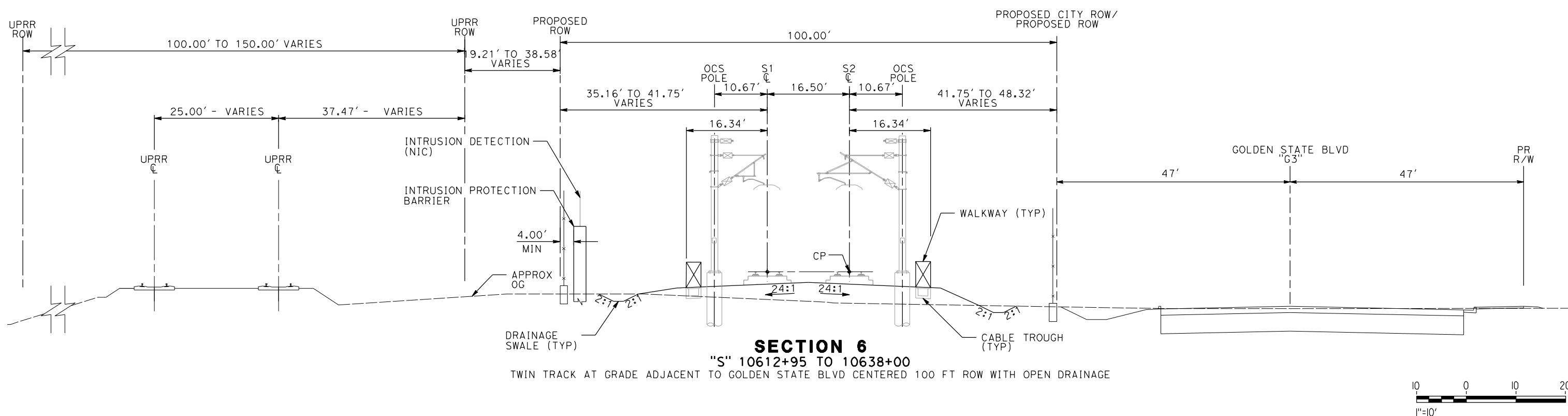
CONTRACT NO.
DRAWING NO.
SCALE
AS SHOWN
SHEET NO.

NOTES:

1. FOR ADDITIONAL NOTES, SEE DRAWING TT-D001.



SECTION 5
"S" 10592+37 TO 10593+01
TWIN TRACK OVER HERNDON CANAL



REV	DATE	BY	CHK	APP	DESCRIPTION
					01/09/2012

DESIGNED BY
A. SHIELDS
DRAWN BY
H. SULLIVAN
CHECKED BY
A. BOONE
IN CHARGE
A. BOONE
DATE
01/09/2012

PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION

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Technical Services, Inc.
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Sacramento, CA 95811
CH2MHILL



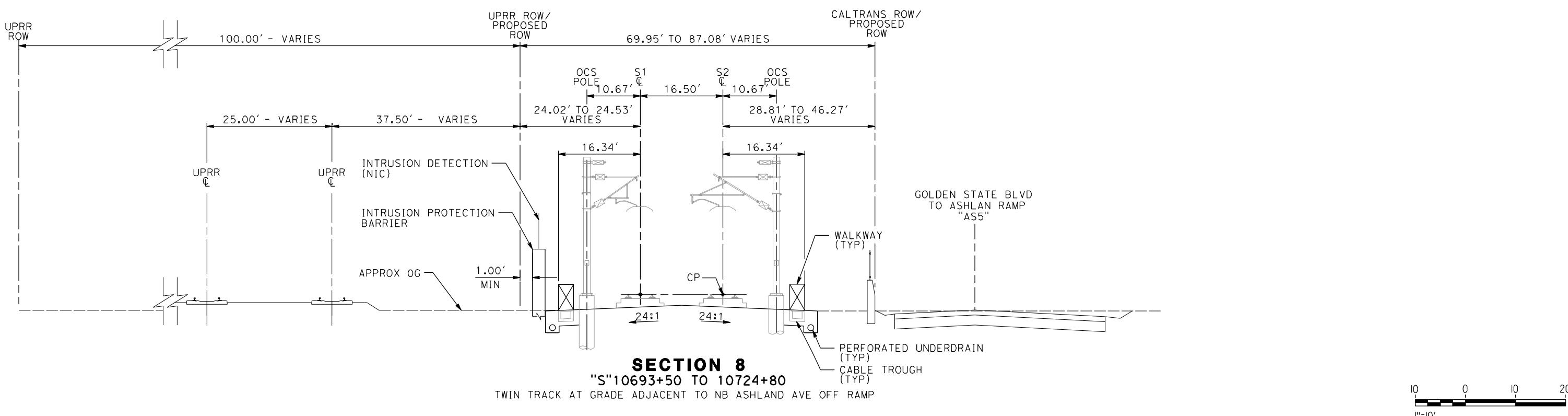
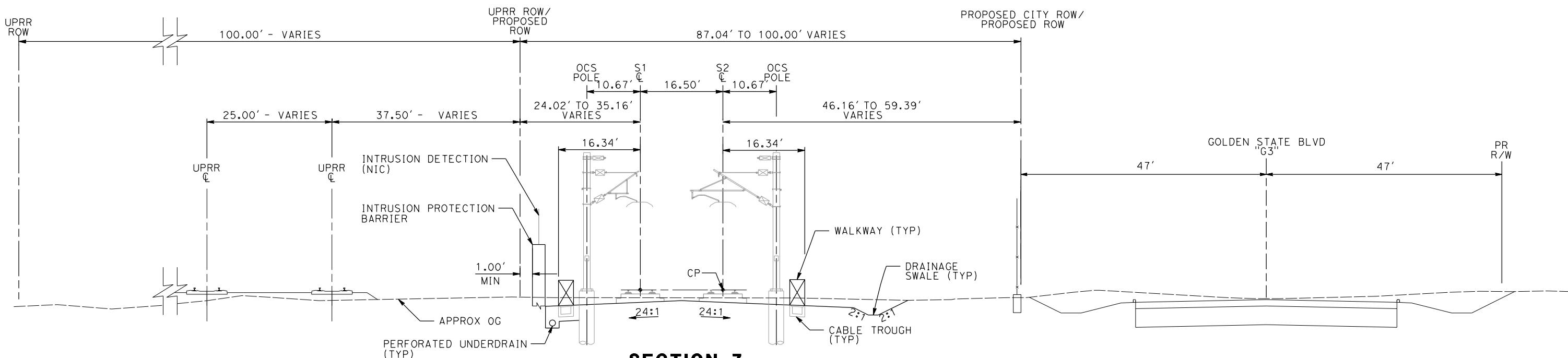
CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION**
PACKAGE 1A
TRACK GUADEWAY
TYPICAL SECTIONS

CONTRACT NO.
DRAWING NO.
TT-D3003
SCALE
AS SHOWN
SHEET NO.

NOTES:

1. FOR ADDITIONAL NOTES, SEE DRAWING TT-D001.



Sullivan				1/20/2012 11:28:29 AM
REV	DATE	BY	CHK	APP

DESIGNED BY
A. SHIELDS
DRAWN BY
H. SULLIVAN
CHECKED BY
A. BOONE
IN CHARGE
A. BOONE
DATE
01/09/2012

PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION

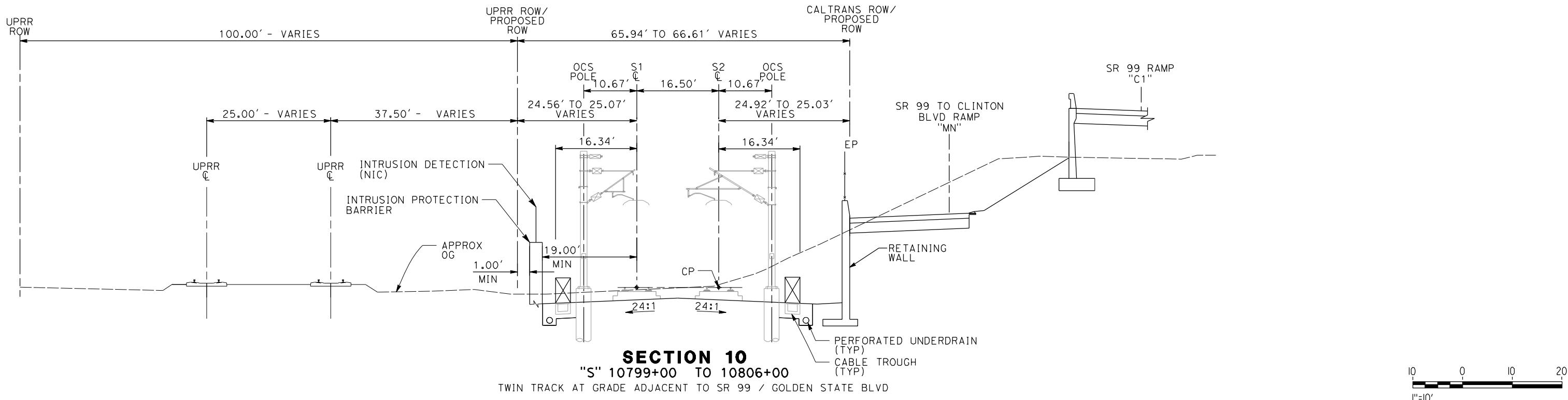
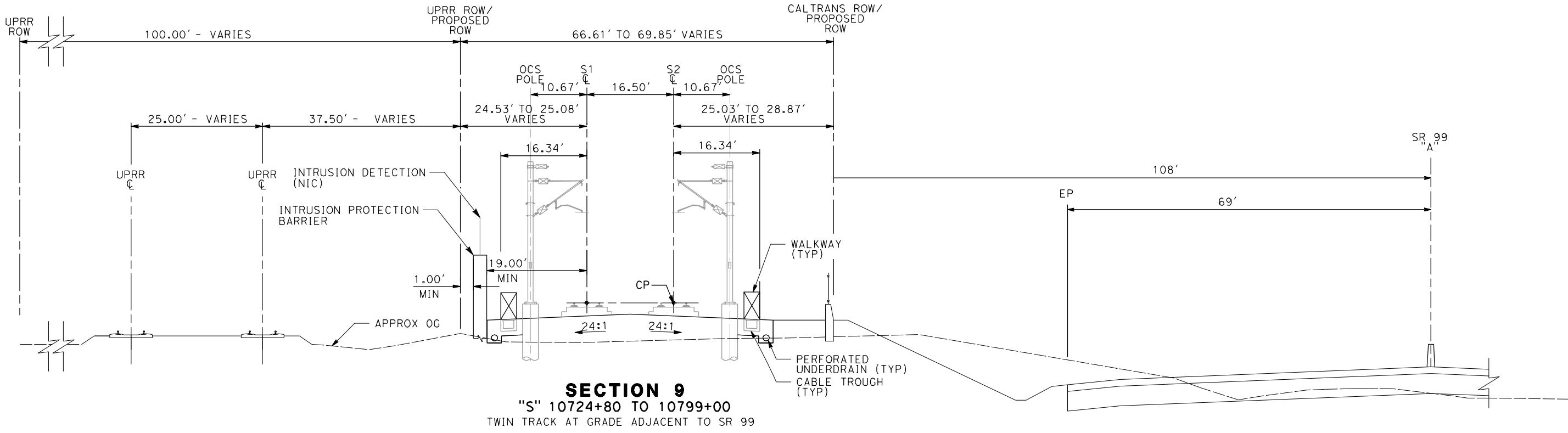
AECOM
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CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUIDEWAY
TYPICAL SECTIONS

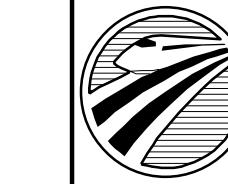
CONTRACT NO.
DRAWING NO.
TT-D3004
SCALE
AS SHOWN
SHEET NO.



DESIGN	A. 1
DRAWING	H. 1
CHECKED	A. 1
IN CHARGE	A. 1
DATE	0

PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION

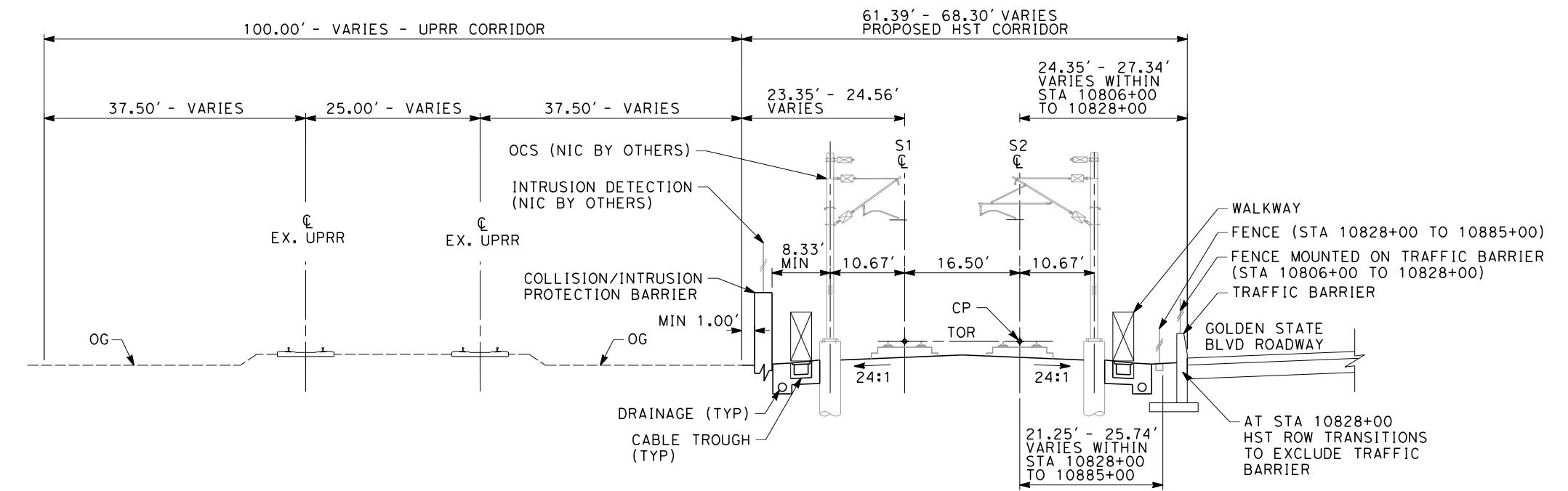
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2020 L Street, Suite 3
Sacramento, CA 95811
CH2MHILL



 CALIFORNIA
HIGH-SPEED RAIL AUTHORITY

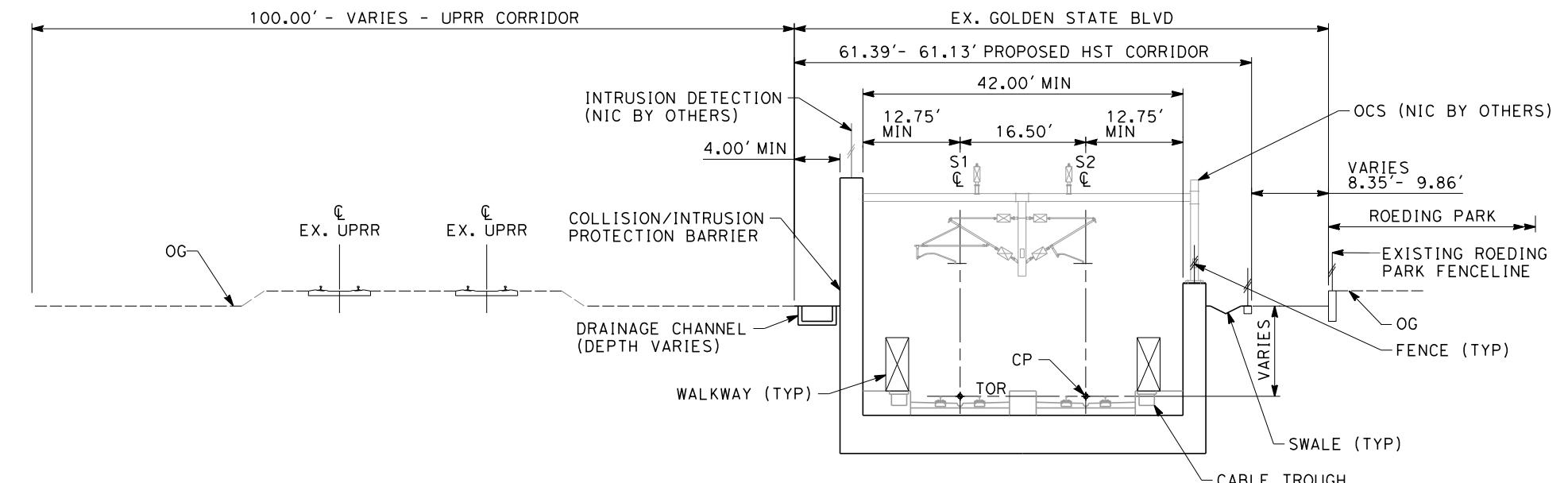
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUIDEWAY
TYPICAL SECTIONS**

CONTRACT NO.
DRAWING NO.
TT-D3005
SCALE
AS SHOWN
SHEET NO.



SECTION 11

"S" 10806+00 THROUGH 10885+00
TWIN TRACK AT GRADE ADJACENT TO UPRR



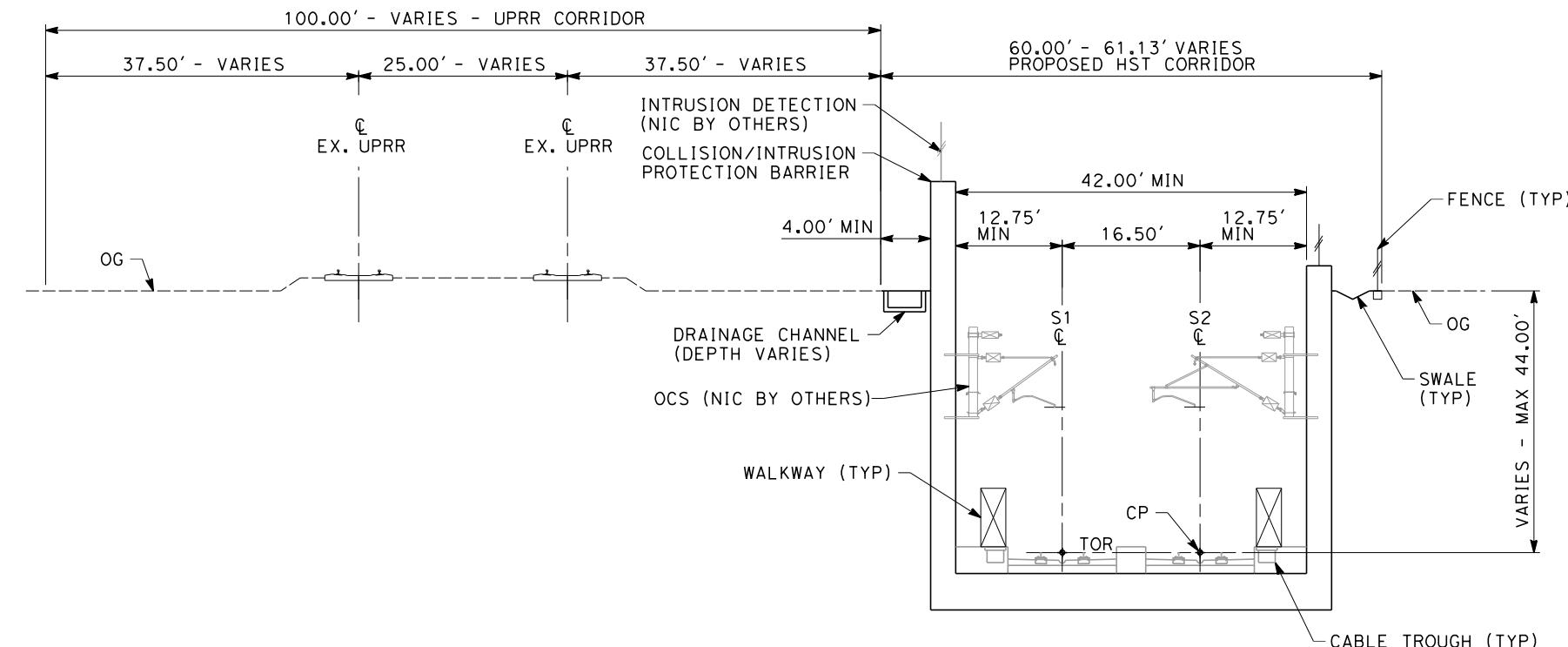
SECTION 12

"S" 10885+00 THROUGH 10902+50
TWIN TRACK IN GRADE SEPARATION ADJACENT
TO UPRR AND ROEDING PARK



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUIDEWAY
TYPICAL SECTIONS**

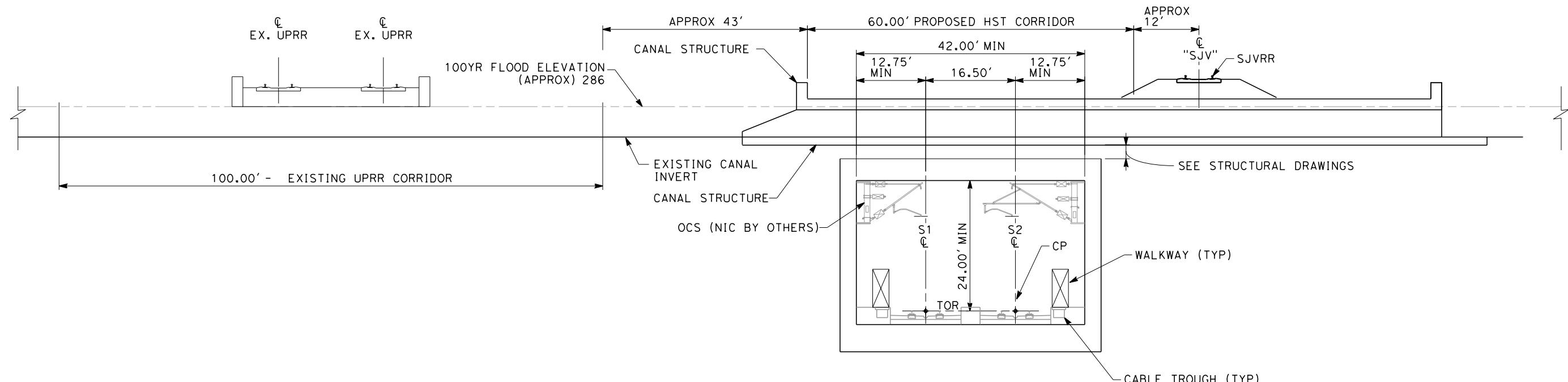
CONTRACT NO.
DRAWING NO.
SCALE
SHEET NO.
TT-D3006
AS SHOWN

**NOTES:**

1. TRACKFORM SHOWN FOR INFORMATION ONLY (NIC BY OTHERS).
2. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.
3. FOR STRUCTURAL DIMENSIONS SEE STRUCTURAL TYPICAL SECTIONS.
4. COLLISION/INTRUSION PROTECTION BARRIER REQUIRED FROM STA 10806+00 - 10950+30

SECTION 13

"S" 10902+50 THROUGH 10936+55
 "S" 10940+15 THROUGH 10951+00
 ADJACENT TO UPRR

**SECTION 14**

"S" 10934+05
 TWIN TRACK IN GRADE SEPARATION UNDER CANAL



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
 K. SEYMOUR
 DRAWN BY
 P. TONKIN
 CHECKED BY
 D. HUNT
 IN CHARGE
 R. COFFIN
 DATE
 02/17/12

PROPOSED
 PRELIMINARY
 DESIGN
 NOT FOR
 CONSTRUCTION



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 SIERRA SUBDIVISION**
 PACKAGE 1A
 TRACK GUADEWAY
 TYPICAL SECTIONS

CONTRACT NO.
 DRAWING NO.
 TT-D3007
 SCALE
 AS SHOWN
 SHEET NO.

EX. UPRR

EX. UPRR

100.00' - EXISTING UPRR CORRIDOR

SJVRR
"SJV"

OCS (NIC BY OTHERS)

WALKWAY (TYP)

60.00' PROPOSED HST CORRIDOR

SECTION 15"S" 10934+90
TWIN TRACK UNDER SJVRR

OG

EX. UPRR

EX. UPRR

100.00' - VARIES - EXISTING UPRR CORRIDOR

STATE ROUTE 180

EXISTING SR 180 BRIDGE ABUTMENT

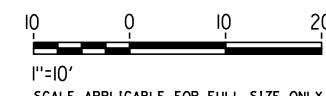
80.00' PROPOSED HST CORRIDOR

OCS (NIC BY OTHERS)

WALKWAY (TYP)

42.00' MIN

CABLE TROUGH (TYP)

SECTION 16"S" 10936+55 THROUGH 10940+15
TWIN TRACK IN BOX ADJACENT TO SR-180 ABUTMENT

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY K. SEYMOUR	PROPOSED PRELIMINARY DESIGN
DRAWN BY P. TONKIN	NOT FOR CONSTRUCTION
CHECKED BY D. HUNT	
IN CHARGE R. COFFIN	
DATE 02/17/12	



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION**
PACKAGE 1A
TRACK GUIDEWAY
TYPICAL SECTIONS

CONTRACT NO.
DRAWING NO.
SCALE
AS SHOWN

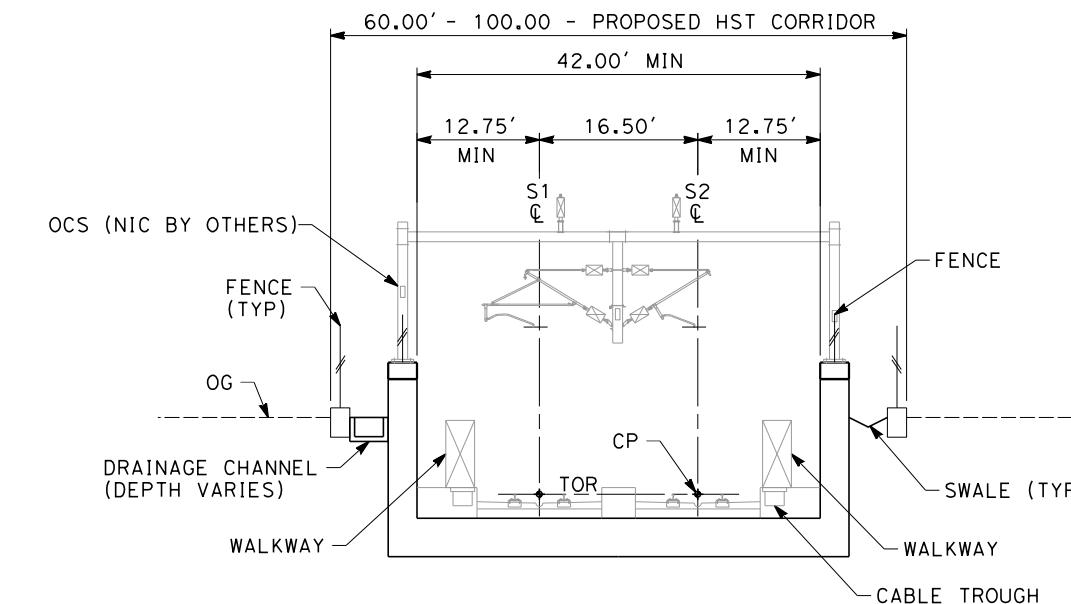
SHEET NO.

NOTES:

1. TRACKFORM SHOWN FOR INFORMATION ONLY (NIC BY OTHERS).
2. FOR STRUCTURAL DIMENSIONS SEE STRUCTURAL TYPICAL SECTIONS.
3. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.

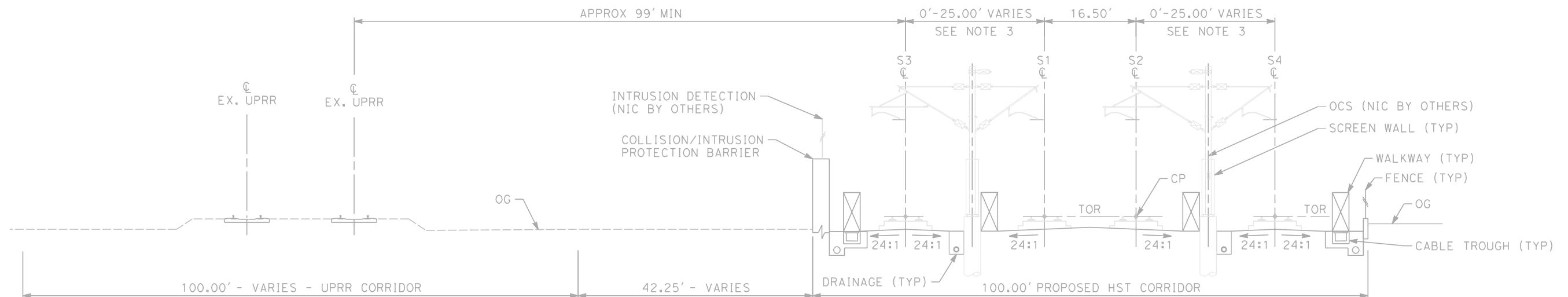
NOTES:

1. TRACKFORM SHOWN FOR INFORMATION ONLY (NIC BY OTHERS).
2. FOR STRUCTURAL DIMENSIONS SEE STRUCTURAL TYPICAL SECTIONS.
3. DISTANCE BETWEEN TRACKS VARIES FROM 0.00'-25.00' THROUGH TURNOUTS AND REVERSE TO PARALLEL.
4. COLLISION/INTRUSION PROTECTION BARRIER REQUIRED FROM STA 10806+00 - 10950+30 AND STA 10990+70 - 11030+00
5. SUPERELEVATION IS NOT SHOWN. THE AMOUNT OF APPLIED SUPERELEVATION IS SHOWN IN THE CURVE DATA TABLES.



SECTION 17

(PACKAGE 1A)
"S" 10951+00 THROUGH 10970+00
TWIN TRACK IN GRADE SEPARATION



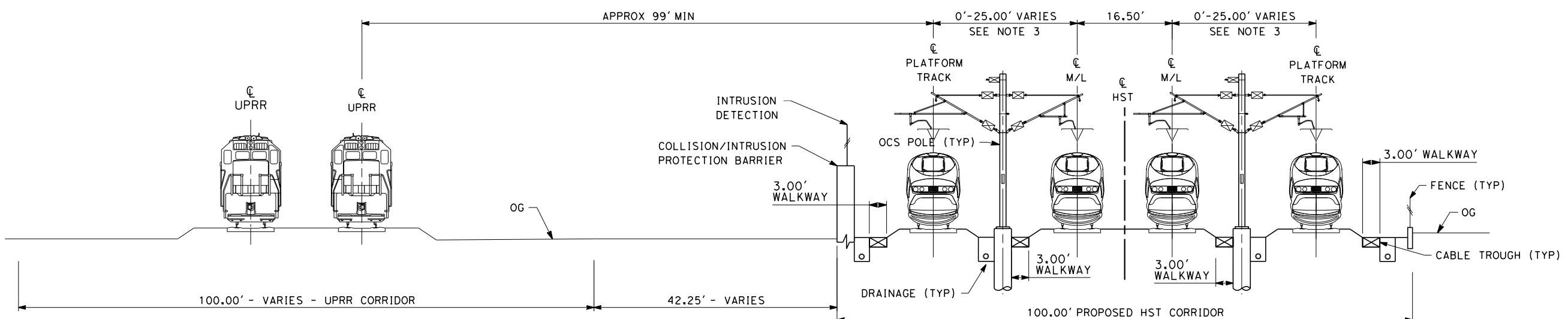
SECTION 18

(PACKAGE 1B)
"S" 10970+00 THROUGH 10991+52
"S" 10992+67 THROUGH 10992+95
"S" 11007+05 THROUGH 11007+80
"S" 11026+00 THROUGH 11030+00
4 TRACK AT GRADE STATION APPROACH



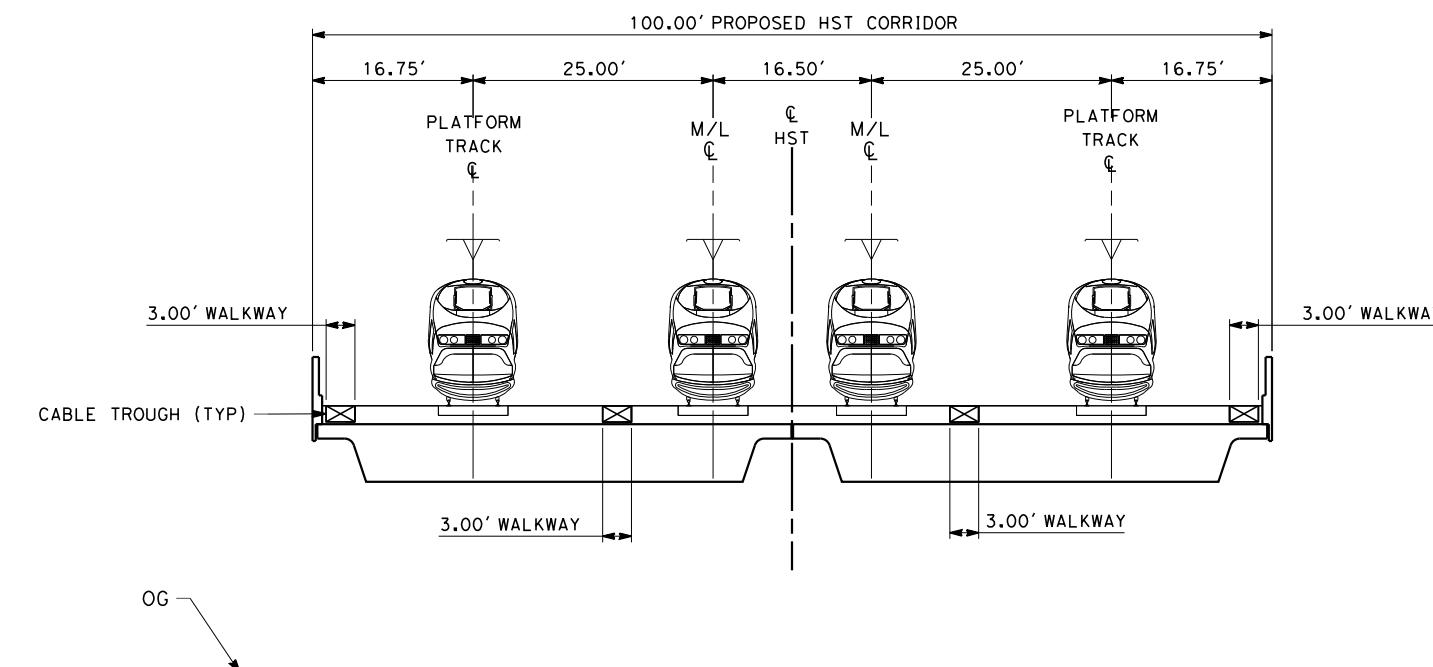
**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUIDEWAY
TYPICAL SECTIONS**

CONTRACT NO.
DRAWING NO.
TT-D3009
SCALE
AS SHOWN
SHEET NO.



SECTION 1

TWIN TRACK AT GRADE 100FT ROW ADJACENT TO UPRR
 STA 257+25 THROUGH STA 278+77
 STA 279+92 THROUGH STA 280+20
 STA 294+30 THROUGH STA 295+05
 STA 313+25 THROUGH STA 317+25



SECTION 2

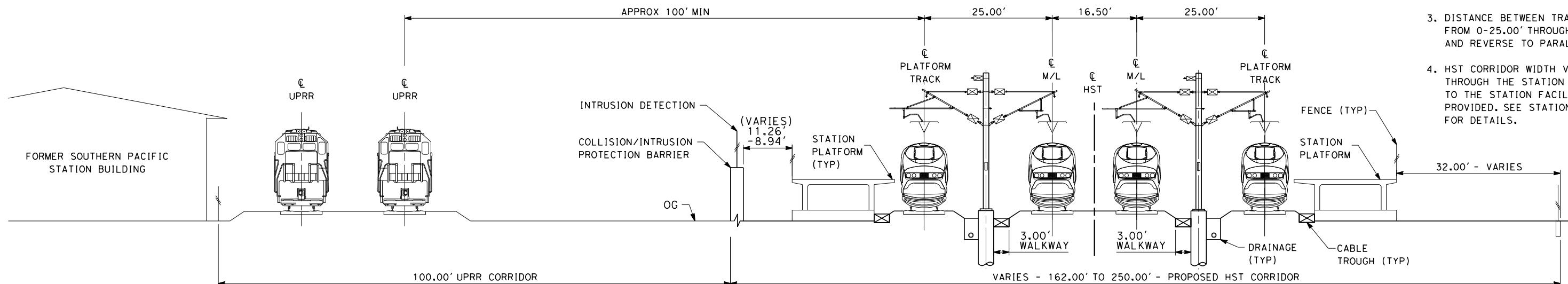
4 TRACK - BRIDGE STRUCTURE
 STA 278+77 THROUGH STA 279+92

10 0 10 20
1'=10'

DESIGNED BY K. SEYMOUR	RECORD SET 15% DESIGN SUBMISSION	URS HMM ARUP	CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD	CONTRACT NO. HSR 06-0003
DRAWN BY P. TONKIN	-	CALIFORNIA HIGH-SPEED TRAIN	FRESNO SUBSECTION ALIGNMENT F1	DRAWING NO. CB3010
CHECKED BY D. HUNT	NOT FOR CONSTRUCTION		CROSS SECTIONS	SCALE AS SHOWN
IN CHARGE R. COFFIN				SHEET NO. 18 OF 23
DATE 02/15/12				
REV	DATE	BY	CHK	APP
				DESCRIPTION

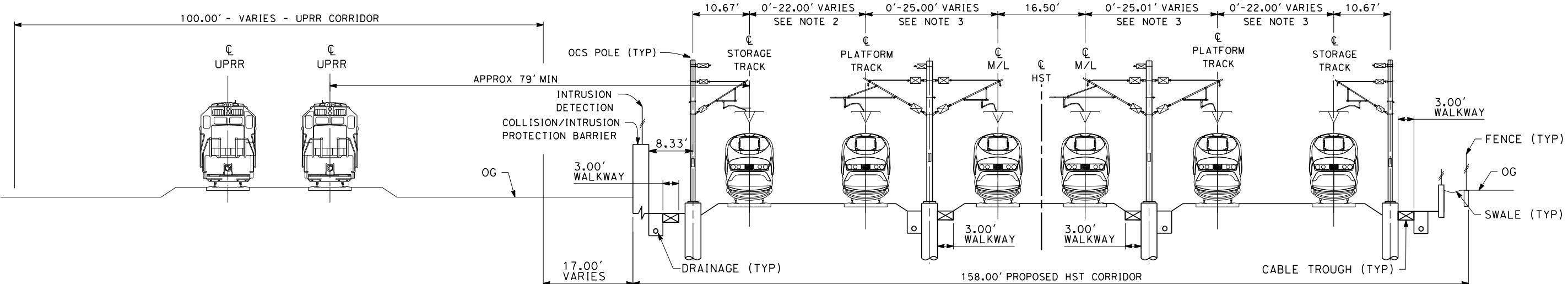
NOTES:

1. TRACKFORM SHOWN IS INDICATIVE
2. DISTANCE BETWEEN TRACKS VARIES FROM 0-22.00' THROUGH TURNOUTS AND REVERSE TO PARALLEL.
3. DISTANCE BETWEEN TRACKS VARIES FROM 0-25.00' THROUGH TURNOUTS AND REVERSE TO PARALLEL.
4. HST CORRIDOR WIDTH VARIES THROUGH THE STATION ACCORDING TO THE STATION FACILITIES PROVIDED. SEE STATION DRAWINGS FOR DETAILS.



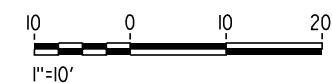
SECTION 3

4 TRACK - AT GRADE STATION PLATFORMS
STA 280+20 THROUGH STA 294+30



SECTION 4

6 TRACK - AT GRADE STORAGE TRACKS
STA 295+05 THROUGH STA 313+25



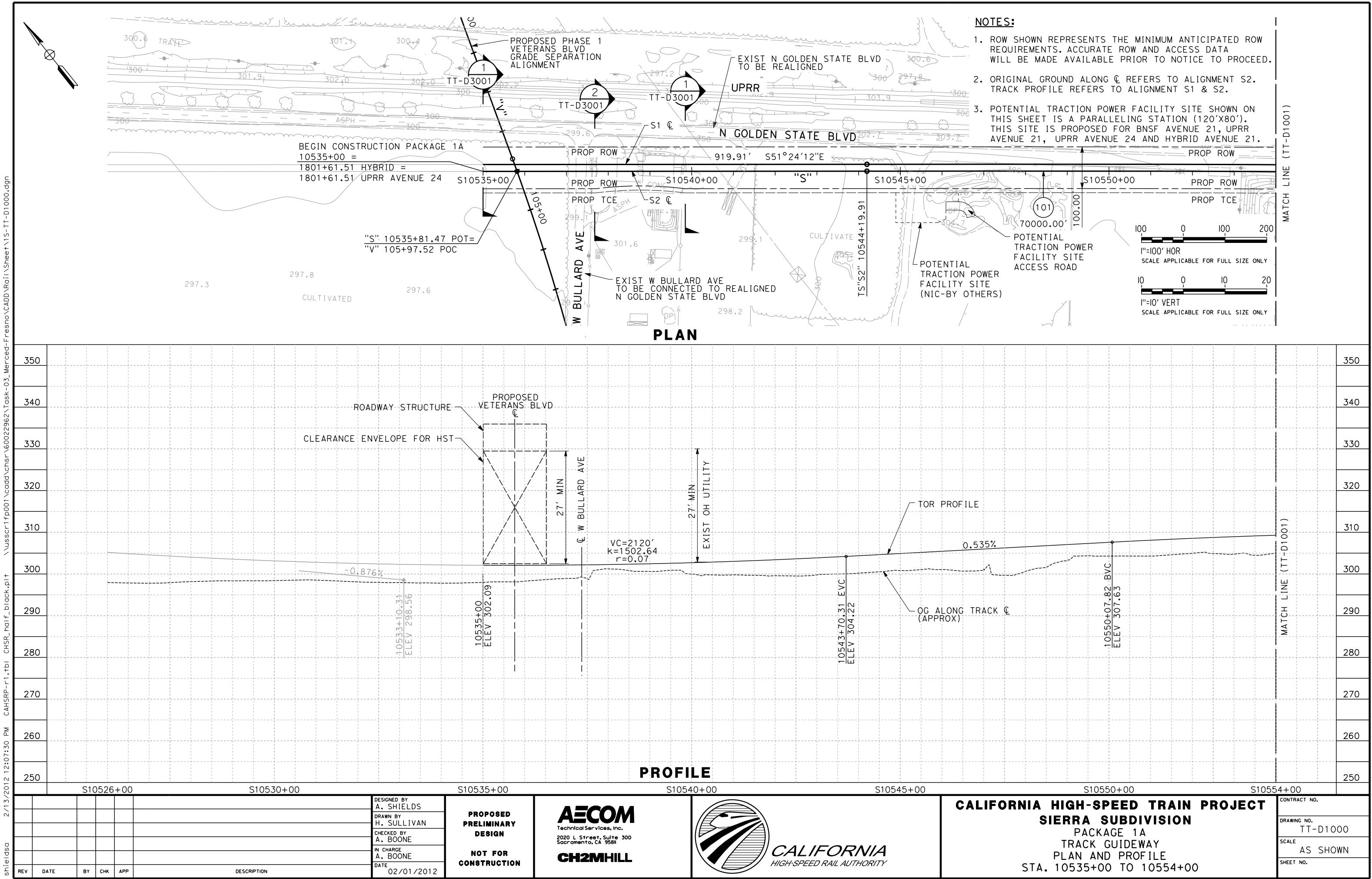
DESIGNED BY K. SEYMOUR	RECORD SET 15% DESIGN SUBMISSION	URS HMM ARUP	CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD	CONTRACT NO. HSR 06-0003
DRAWN BY P. TONKIN	-	CALIFORNIA HIGH-SPEED TRAIN	FRESNO SUBSECTION	DRAWING NO. CB3011
CHECKED BY D. HUNT	NOT FOR CONSTRUCTION		ALIGNMENT F1	SCALE AS SHOWN
IN CHARGE R. COFFIN			CROSS SECTIONS	
DATE 02/15/12				SHEET NO. 19 OF 23
REV	DATE	BY	CHK	APP
			DESCRIPTION	

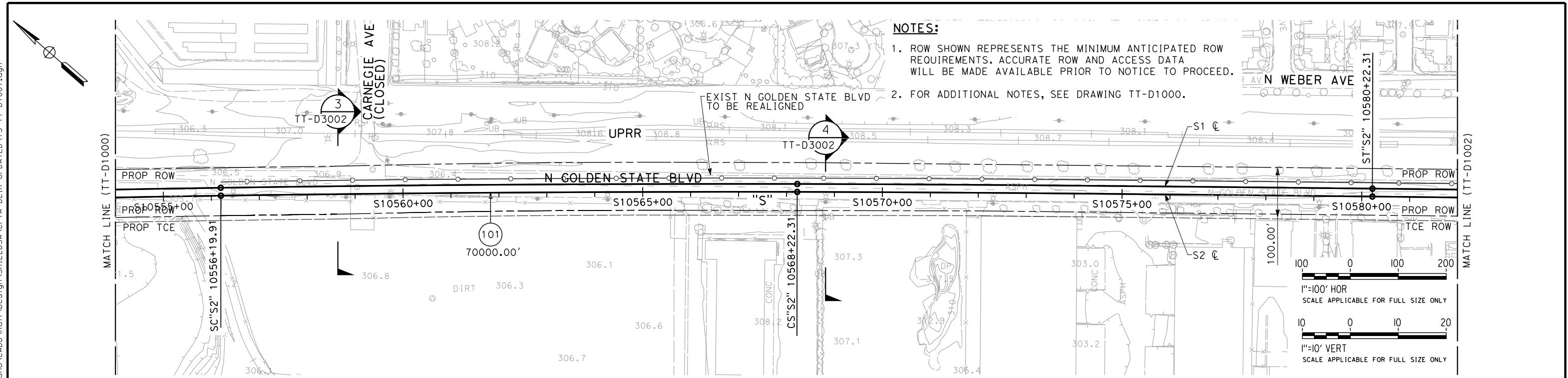
NOTES:

1. THE S1 LINE IS OFFSET TO S2 LINE BY 16.50 FEET.

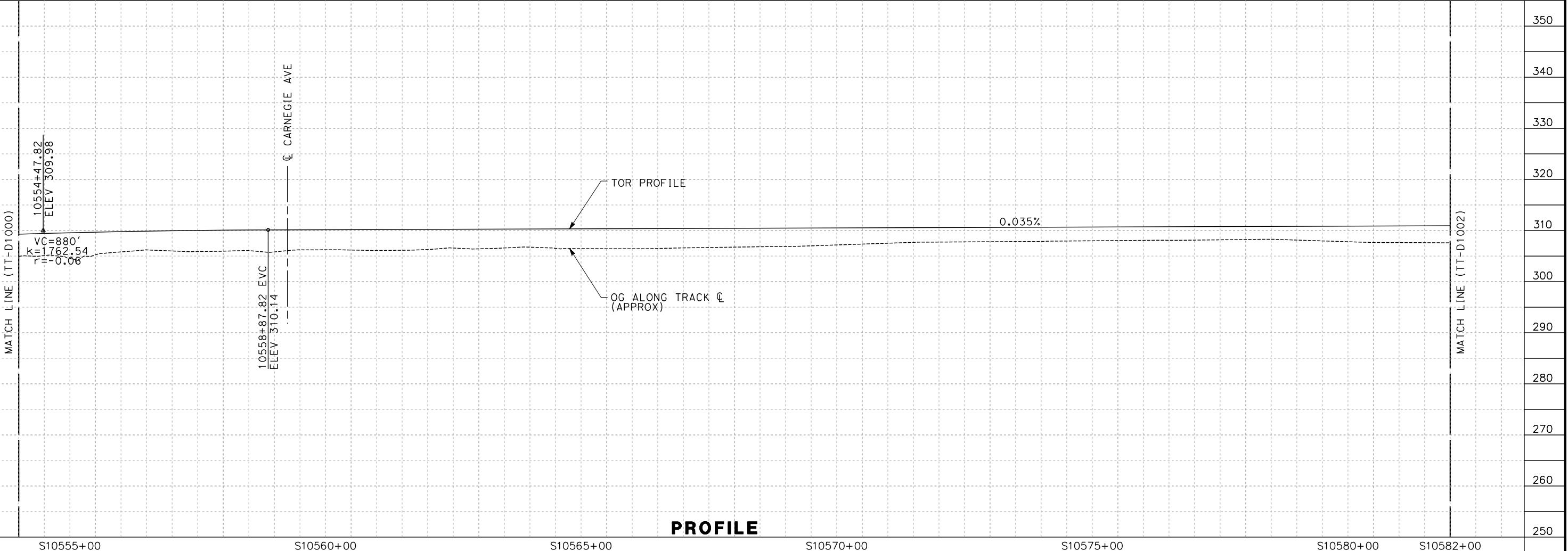
TRACK GEOMETRY DATA ALONG SOUTHBOUND(S2) TRACK CENTERLINE													
CURVE NO.	DESCRIPTION	STATION	NORTHING	EASTING	BEARING	DISTANCE (FT)	R (FT)	LC (FT)	SPIRAL TYPE	Ls (FT)	Ea (in)	Eu (in)	V (MPH)
101	POB	S10535+00.00	2184645.09	6297590.88	S51° 24'12"E	919.91							250
	TS	S10544+19.91	2184071.22	6298309.85					HALF SINE	1200.00			250
	SC	S10556+19.91	2183320.23	6299245.81			70000.00	1202.39			3.00	0.57	250
	CS	S10568+22.31	2182554.13	6300172.52					HALF SINE	1200.00			250
102	ST	S10580+22.31	2181776.12	6301086.14	S49° 26'13"E	1333.20			HALF SINE	1200.00			250
	TS	S10593+55.51	2180909.17	6302098.96					HALF SINE	2000.00			250
	SC	S10613+55.51	2179592.62	6303604.36			28000.00	2109.81			6.00	2.93	250
	CS	S10634+65.32	2178107.16	6305101.90					HALF SINE	2000.00			250
103	ST	S10654+65.32	2176612.48	6306430.60	S41° 01'38"E	24843.38			HALF SINE	1000.00			250
	TS	S10903+08.70	2157870.69	6322738.24					HALF SINE	1000.00			220
	SC	S10913+08.70	2157114.93	6323393.08			71400.00	1002.81			1.50	1.21	220
	CS	S10923+11.52	2156349.26	6324040.66					HALF SINE	1000.00			220
104	SS	S10933+11.52	2155578.08	6324677.27	S41° 09'29"E	921.99			HALF SINE	1000.00			220
	SC	S10943+11.52	2154806.89	6325313.88					HALF SINE	1000.00			220
	CS	S10954+78.01	2153917.10	6326068.18			71416.50	1166.50			1.50	1.21	220
	ST	S10964+78.01	2153162.84	6326724.75					HALF SINE	1000.00			220
	POT	S10974+00.00	2154806.89	6335459.98									250

DESIGNED BY A. SHIELDS	PROPOSED PRELIMINARY DESIGN	AECOM Technical Services, Inc. 2020 L Street, Suite 300 Sacramento, CA 95811	CALIFORNIA HIGH-SPEED RAIL AUTHORITY	CALIFORNIA HIGH-SPEED TRAIN PROJECT SIERRA SUBDIVISION PACKAGE 1A TRACK GUIDEWAY HORIZONTAL ALIGNMENT DATA	CONTRACT NO. DRAWING NO. SCALE SHEET NO.
DRAWN BY H. SULLIVAN	NOT FOR CONSTRUCTION	CH2MHILL			
CHECKED BY A. BOONE					
IN CHARGE A. BOONE					
DATE 02/01/2012					
REV	DATE	BY	CHK	APP	DESCRIPTION





PLAN



PROFILE

2022/09/21 9:21:01 AM CAHSRP-r1.tbl cnsr_half_black.ptt \\\usscr1f001\cada\cnsr\60022962\Task0_3_Merced-Fresno\SHIELDSA\SP1A\DEIR\UPDATED\1S-TI-D1001.dgn

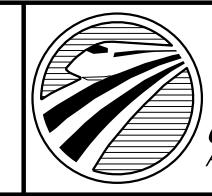
shieldsa

DESIGNED BY	A. SHIELDS
DRAWN BY	H. SULLIVAN
CHECKED BY	A. BOONE
IN CHARGE	A. BOONE
DATE	02/01/2012

**PROPOSED
PRELIMINARY
DESIGN

NOT FOR
CONSTRUCTION**

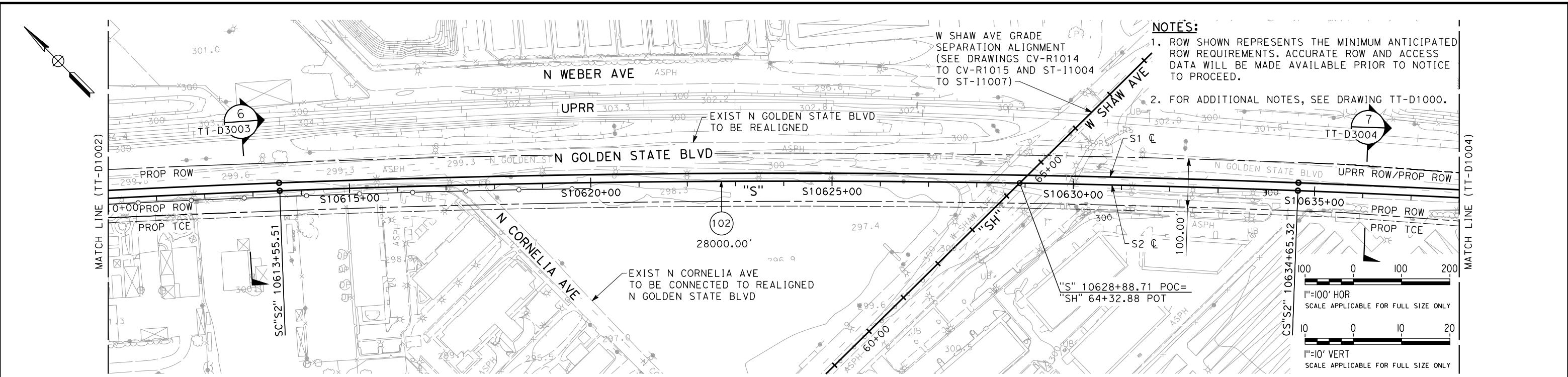
The image contains two logos. The top logo is for AECOM, featuring the word 'AECOM' in a large, bold, black, sans-serif font. Below it, the words 'Technical Services, Inc.' are written in a smaller, black, sans-serif font. The bottom logo is for CH2MHILL, featuring the words 'CH2MHILL' in a large, bold, black, sans-serif font.



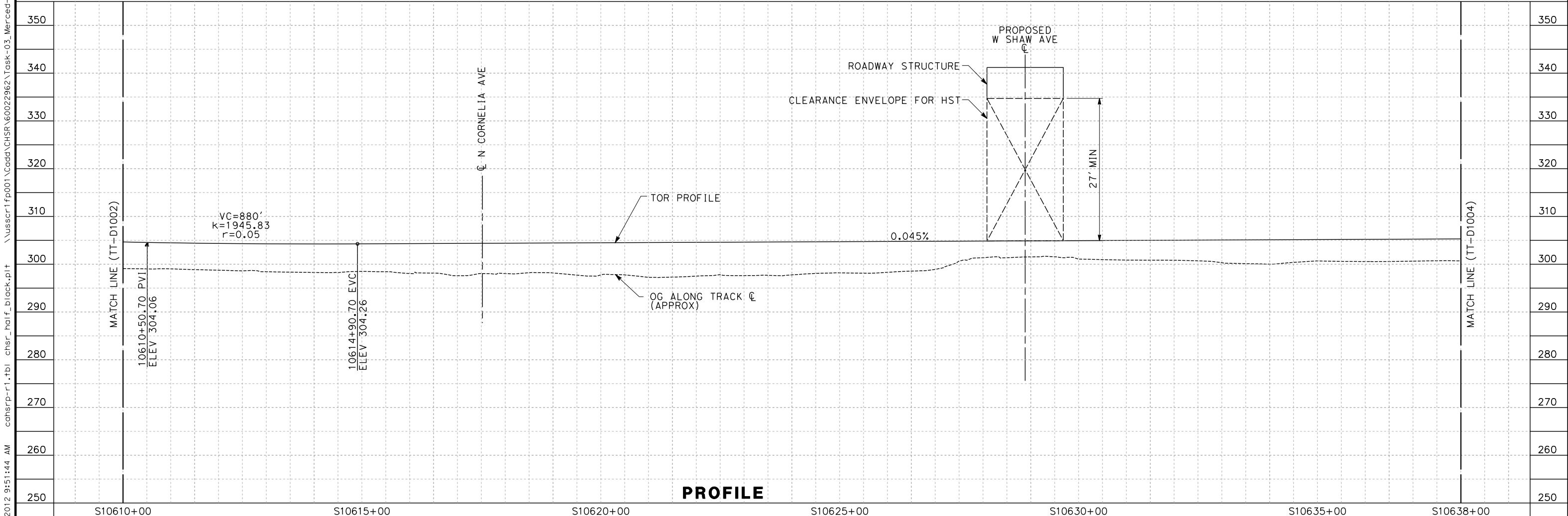
CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUIDEWAY
PLAN AND PROFILE
STA. 10554+00 TO 10582+00**

CONTRACT NO.
DRAWING NO.
TT-D1001
SCALE
AS SHOWN
HEET NO.

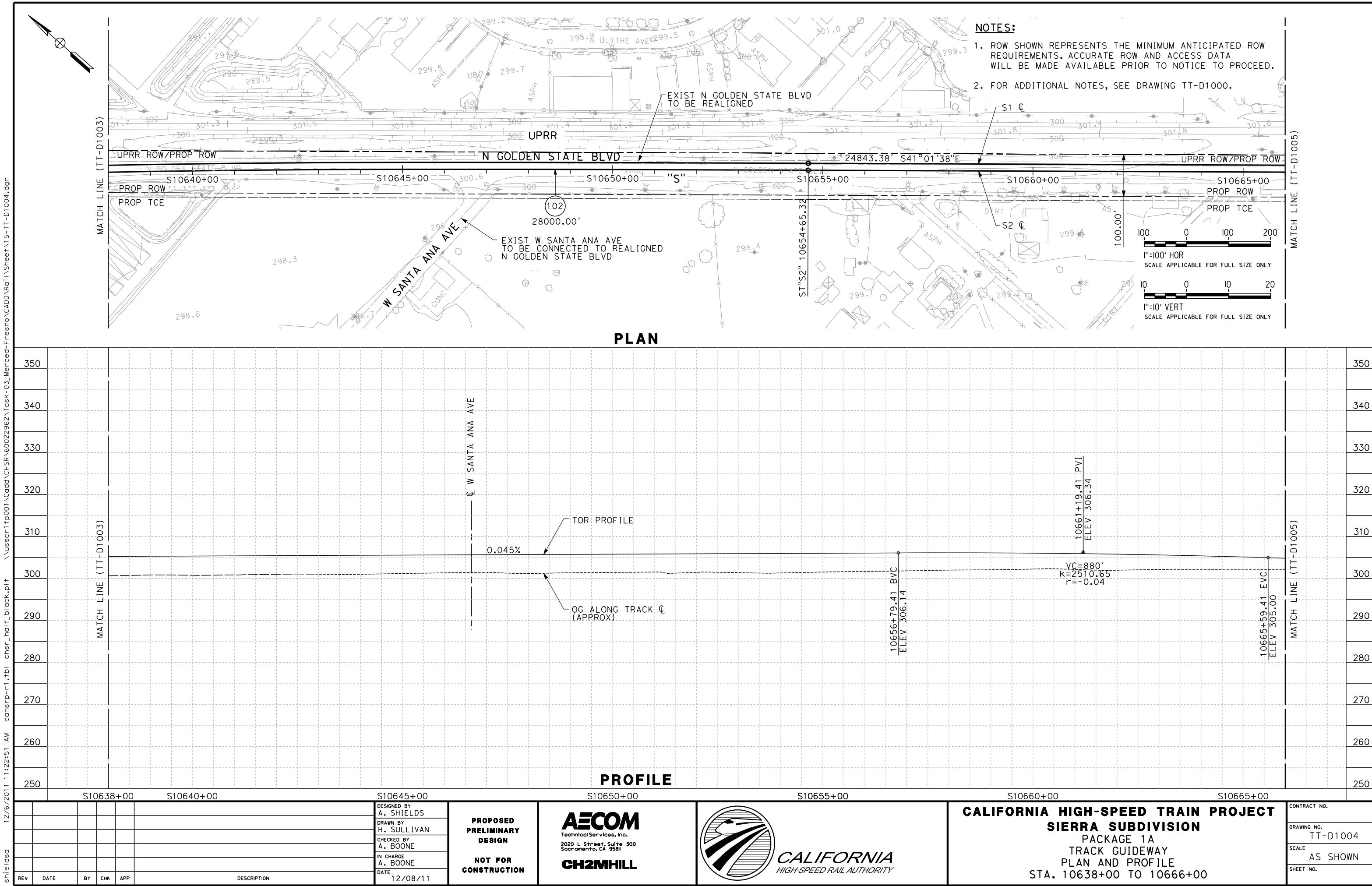


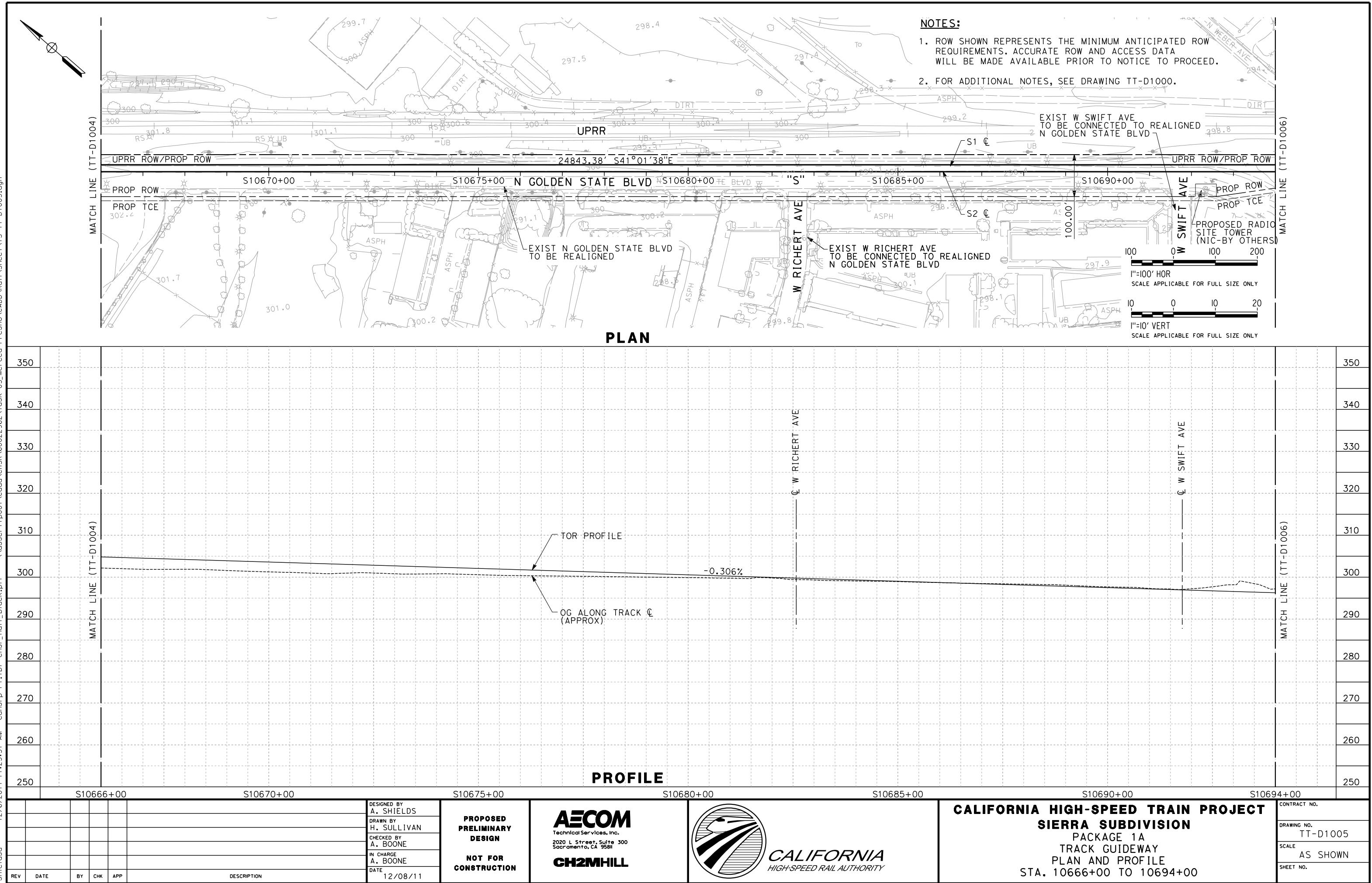
PLAN

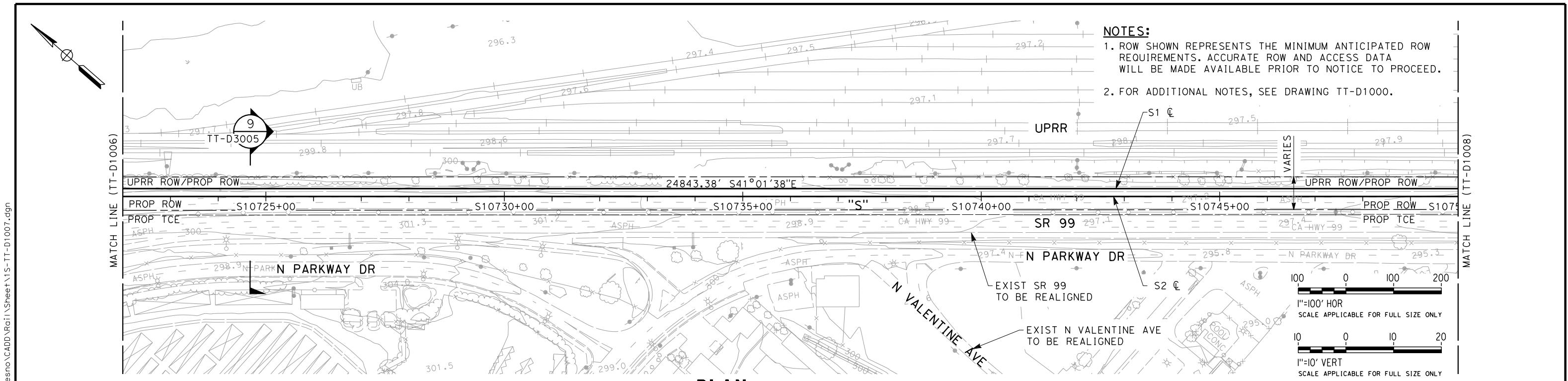


PROFILE

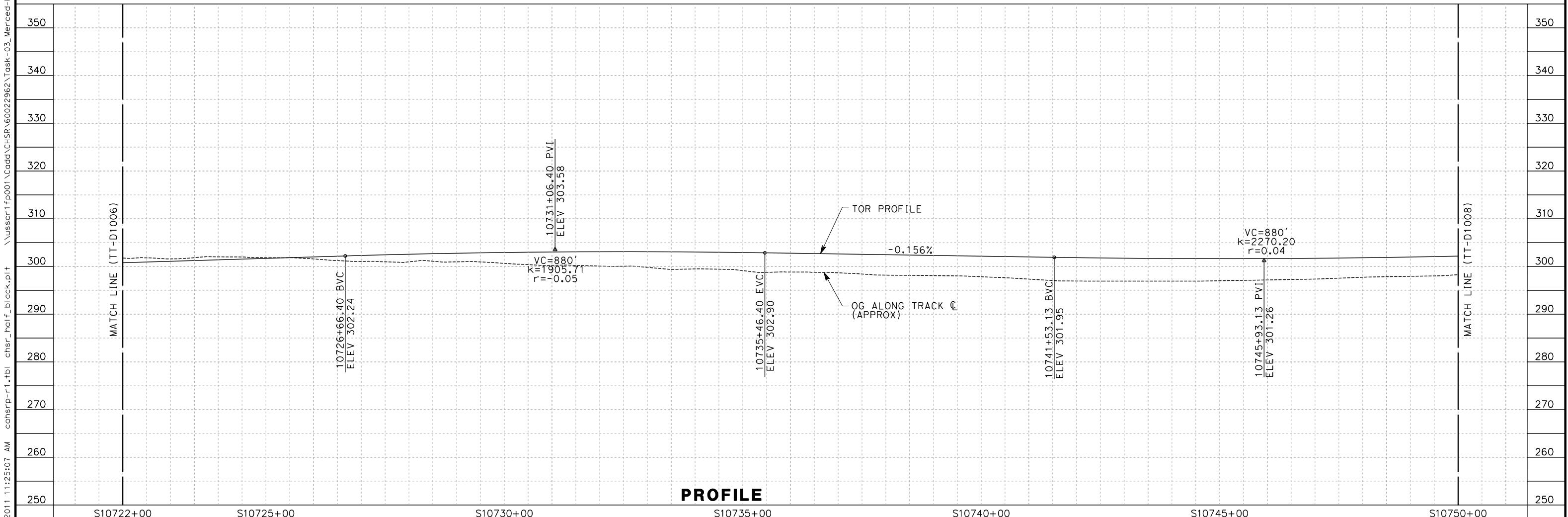
shieldsa 3/24/







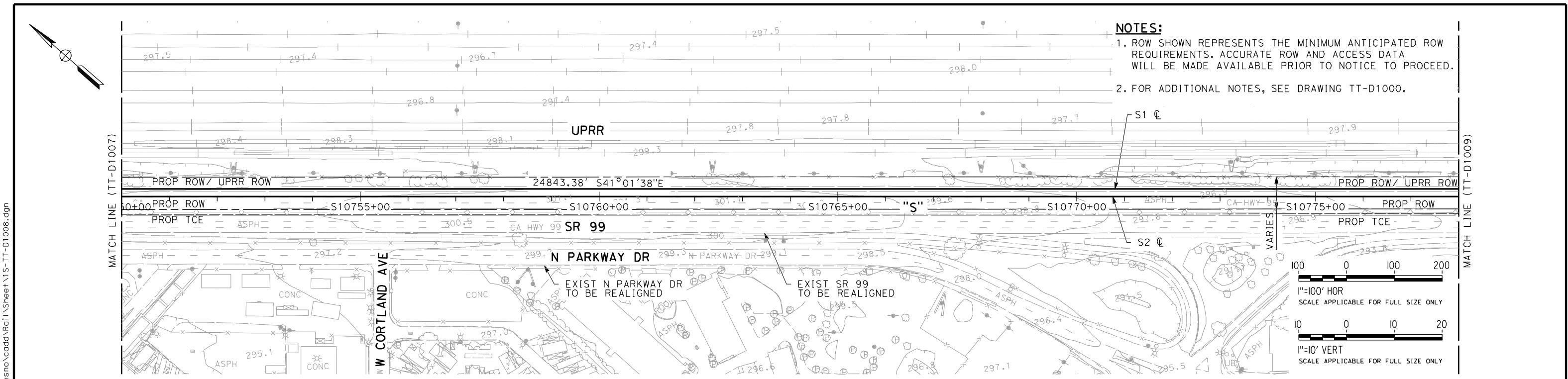
PLAN



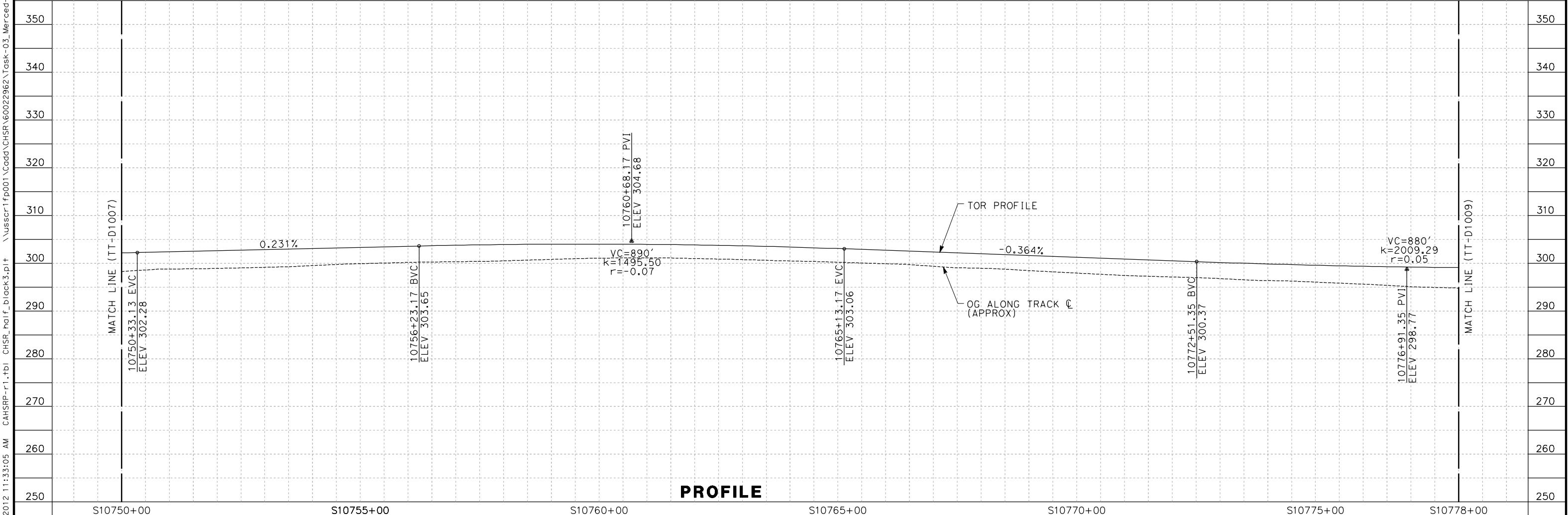
PROFILE

shieldsa 12/6/2 R

DESIGNED BY A. SHIELDS	PROPOSED PRELIMINARY DESIGN	AECOM Technical Services, Inc. 2020 L Street, Suite 300 Sacramento, CA 95811	 CALIFORNIA HIGH-SPEED RAIL AUTHORITY	CALIFORNIA HIGH-SPEED TRAIN PROJECT SIERRA SUBDIVISION PACKAGE 1A TRACK GUIDEWAY PLAN AND PROFILE STA. 10722+00 TO 10750+00	CONTRACT NO. DRAWING NO. TT-D1007 SCALE AS SHOWN SHEET NO.
DRAWN BY H. SULLIVAN	NOT FOR CONSTRUCTION	CH2MHILL			
CHECKED BY A. BOONE					
IN CHARGE A. BOONE					
DATE 12/08/11					



PLAN



PROFILE

DESIGNED BY			
A. SHIELDS			
DRAWN BY			
H. SULLIVAN			
CHECKED BY			
A. BOONE			
IN CHARGE			
A. BOONE			
DATE			
01/09/2012			
REV	DATE	BY	CHK APP
DESCRIPTION			

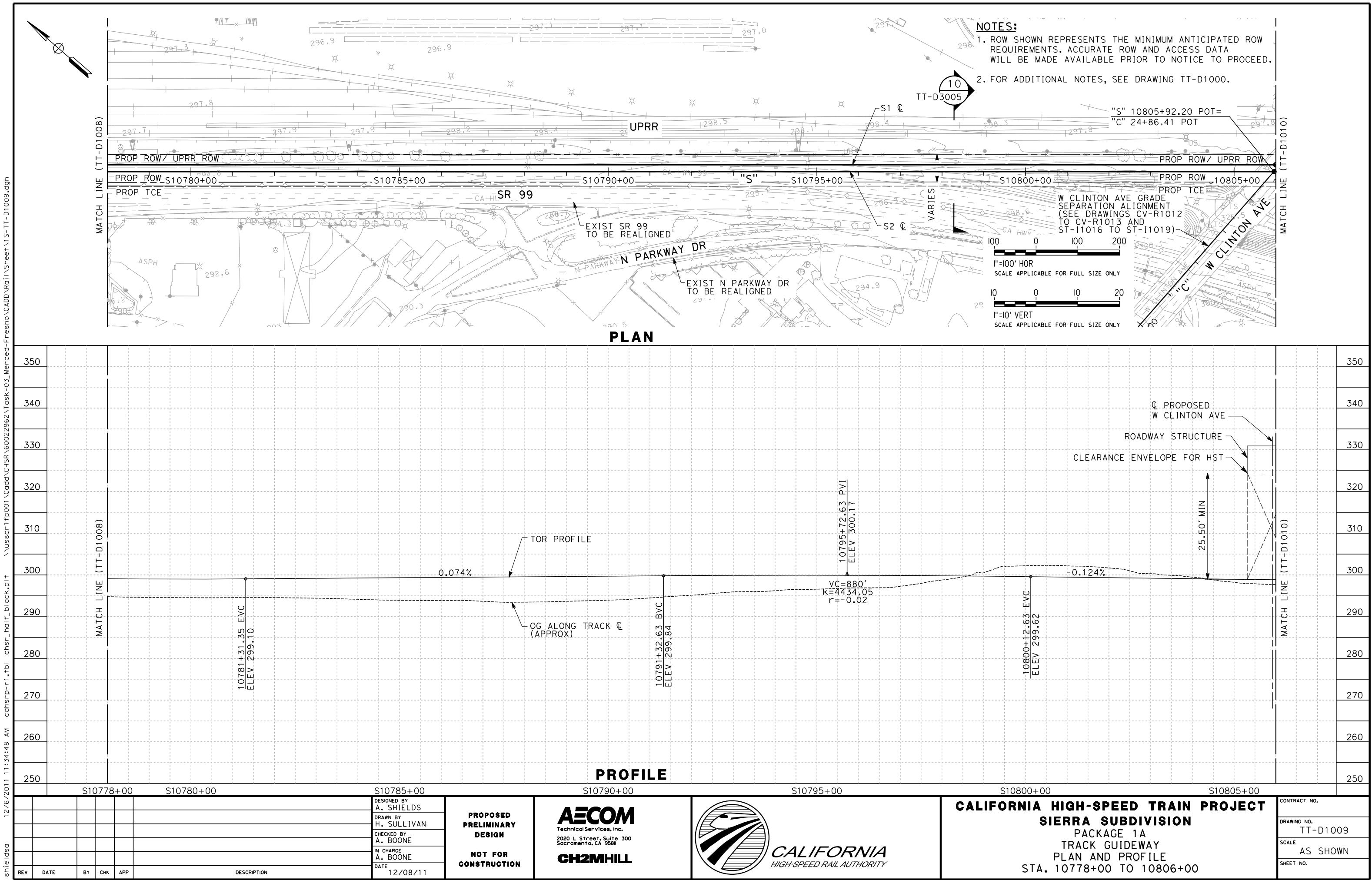
PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION

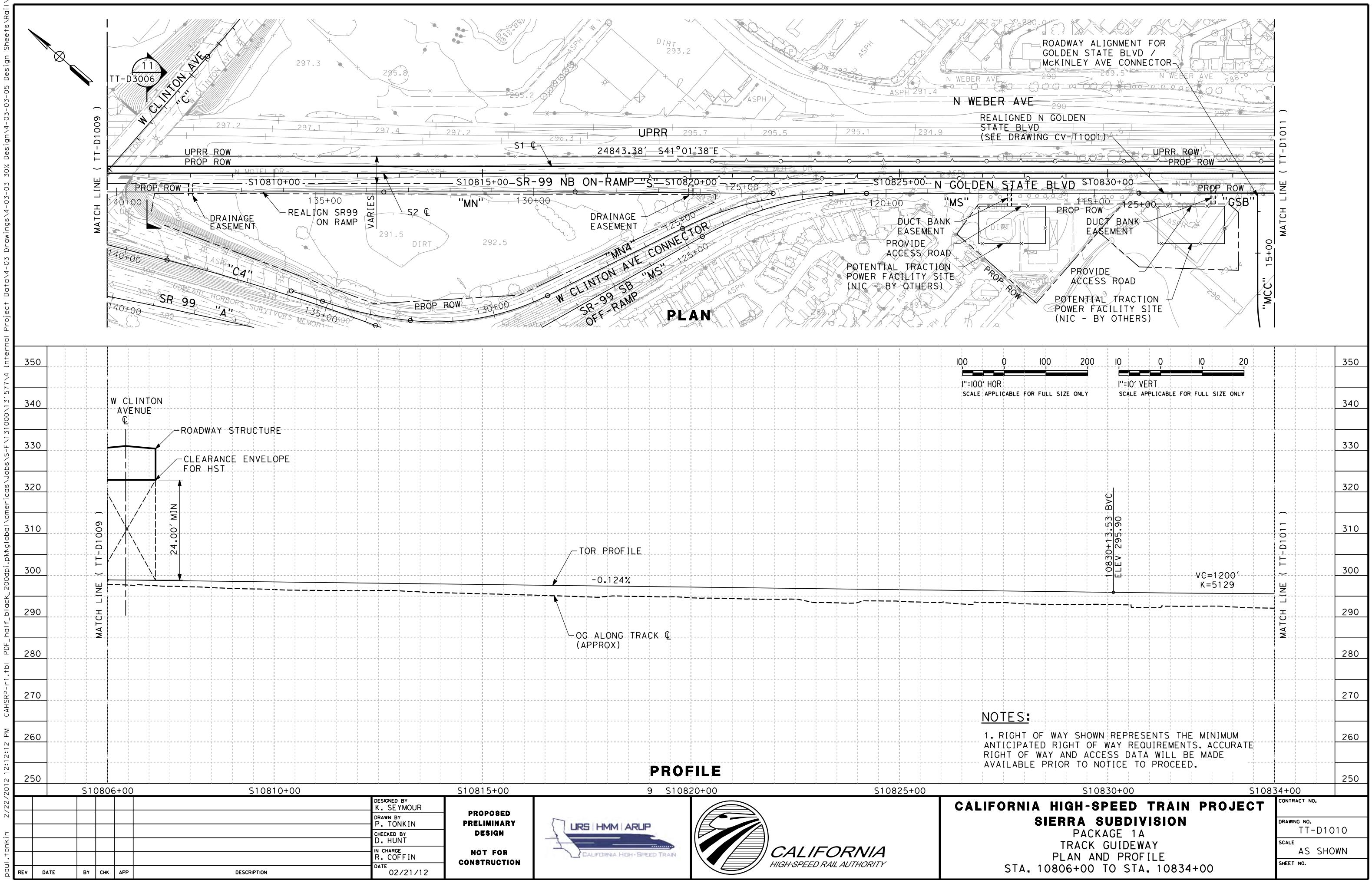
AECOM
Technical Services, Inc.
2020 L Street, Suite 300
Sacramento, CA 95811
CH2MHILL

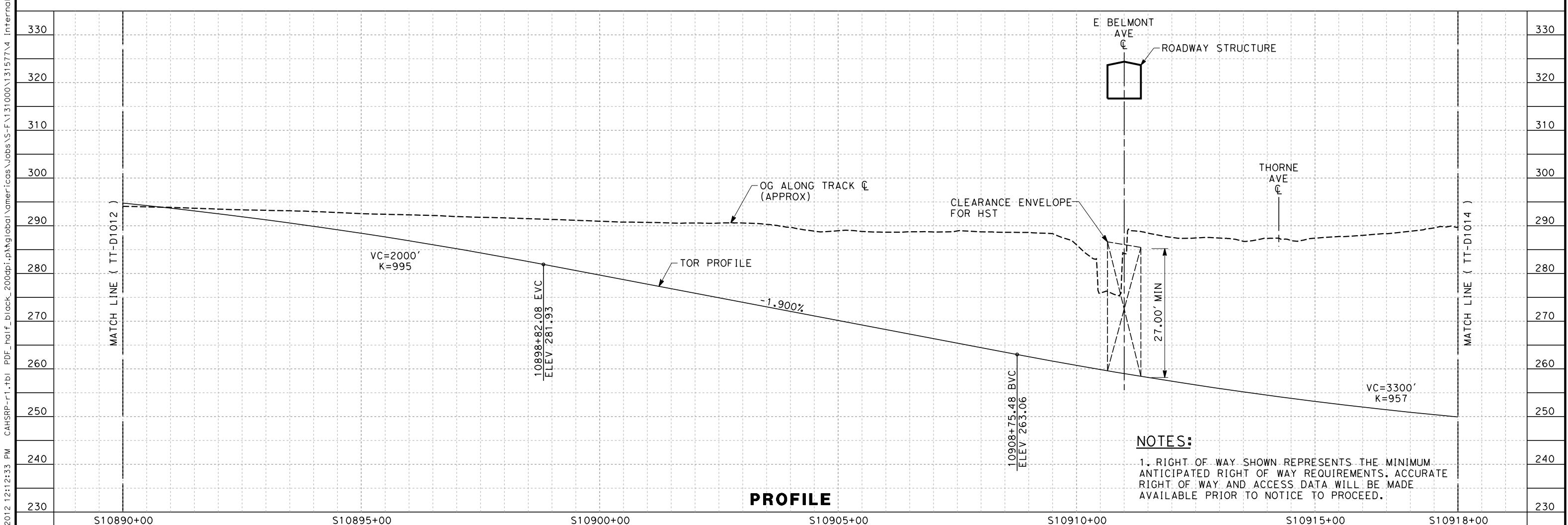
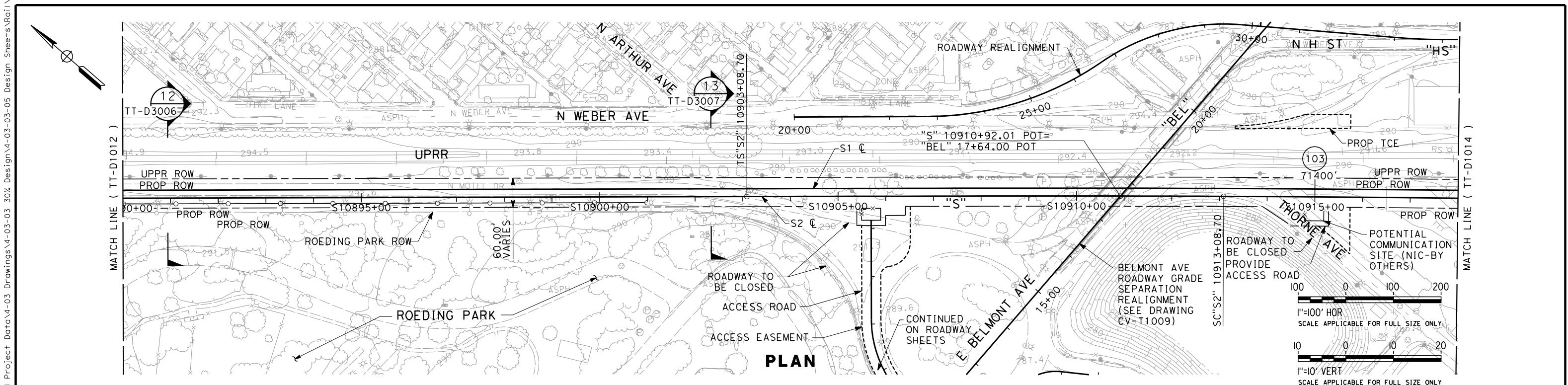


CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUADEWAY
PLAN AND PROFILE
STA. 10750+00 TO 10778+00

CONTRACT NO.
DRAWING NO.
TT-D1008
SCALE
AS SHOWN
SHEET NO.





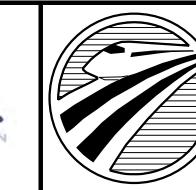


PROFIL

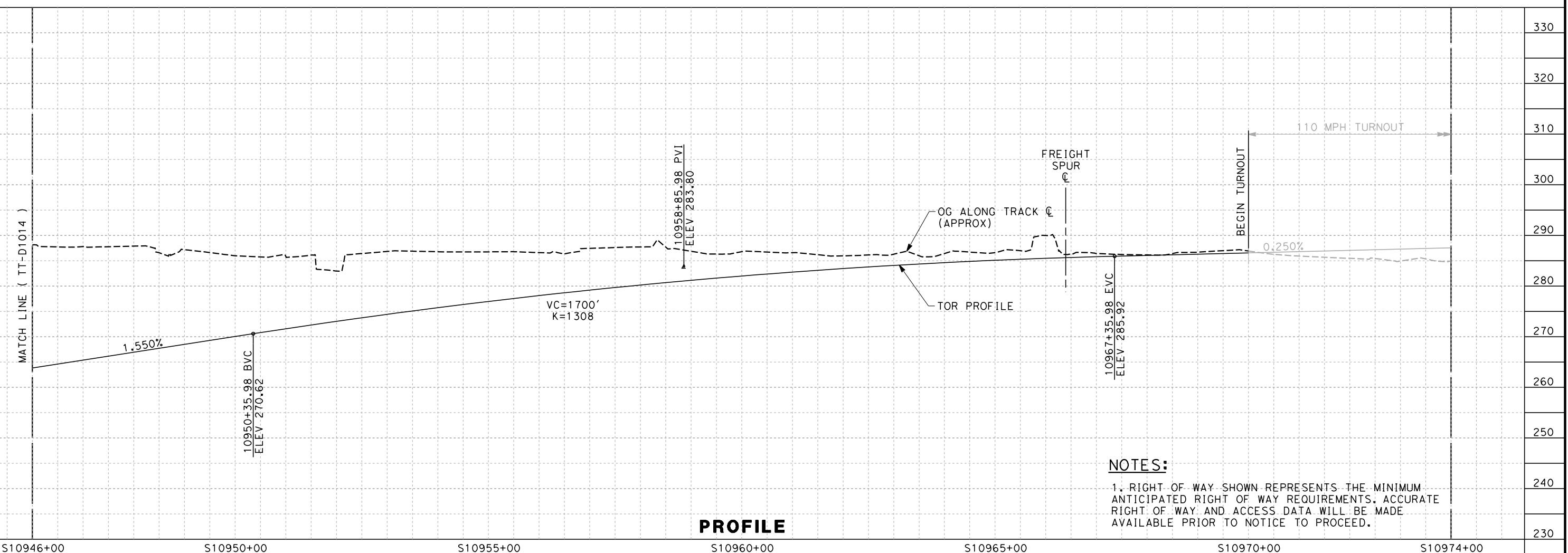
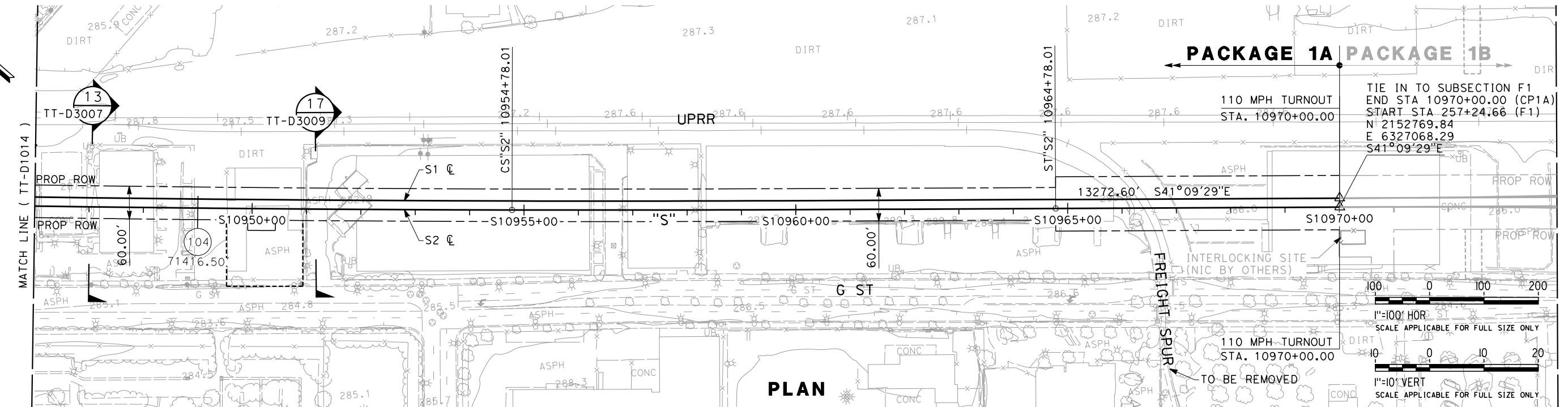
CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUADEWAY
PLAN AND PROFILE
STA. 10890+00 TO STA. 10918+00

CONTRACT NO.
DRAWING NO.
TT-D1013
SCALE
AS SHOWN
SHEET NO.

**PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION**



 CALIFORNIA
HIGH-SPEED RAIL AUTHORITY



1 BICUT

1. RIGHT OF WAY SHOWN REPRESENTS THE MINIMUM ANTICIPATED RIGHT OF WAY REQUIREMENTS. ACCURATE RIGHT OF WAY AND ACCESS DATA WILL BE MADE AVAILABLE PRIOR TO NOTICE TO PROCEED.

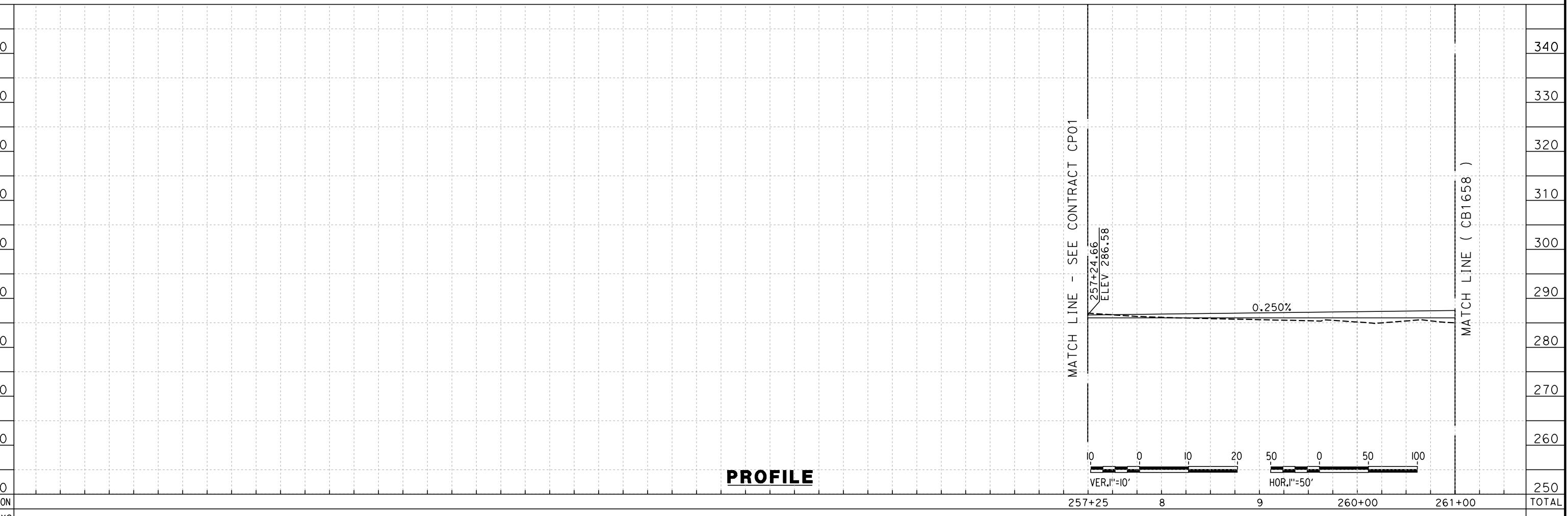
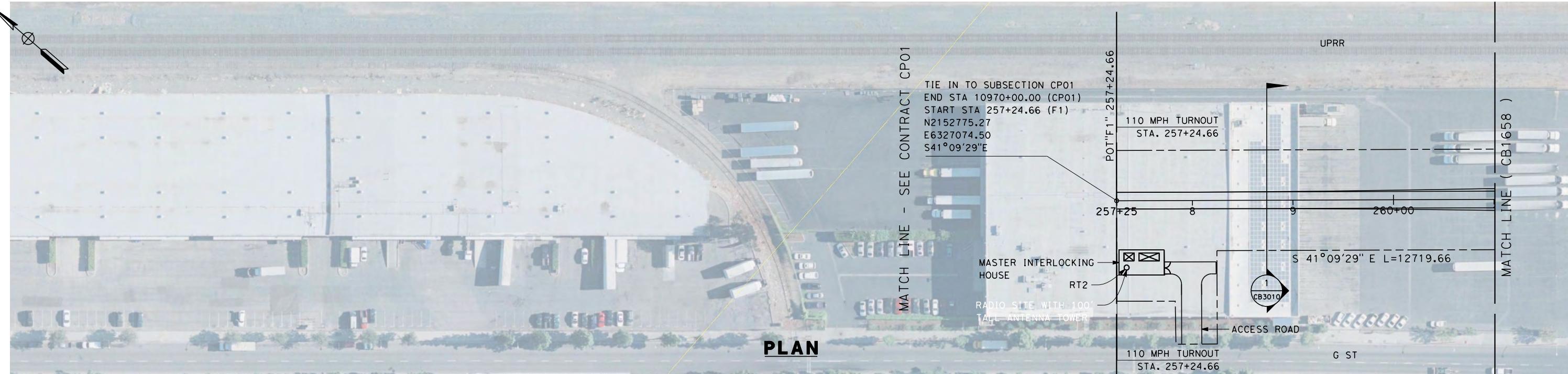
PROFILE

**PROPOSED
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
TRACK GUIDEWAY
PLAN AND PROFILE
STA. 10946+00 TO STA. 10974+00**

CONTRACT NO.
DRAWING NO.
SCALE
SHEET NO.
TT-D1015
AS SHOWN



REV	DATE	BY	CHK	APP	DESCRIPTION	DATE
					02/15/12	

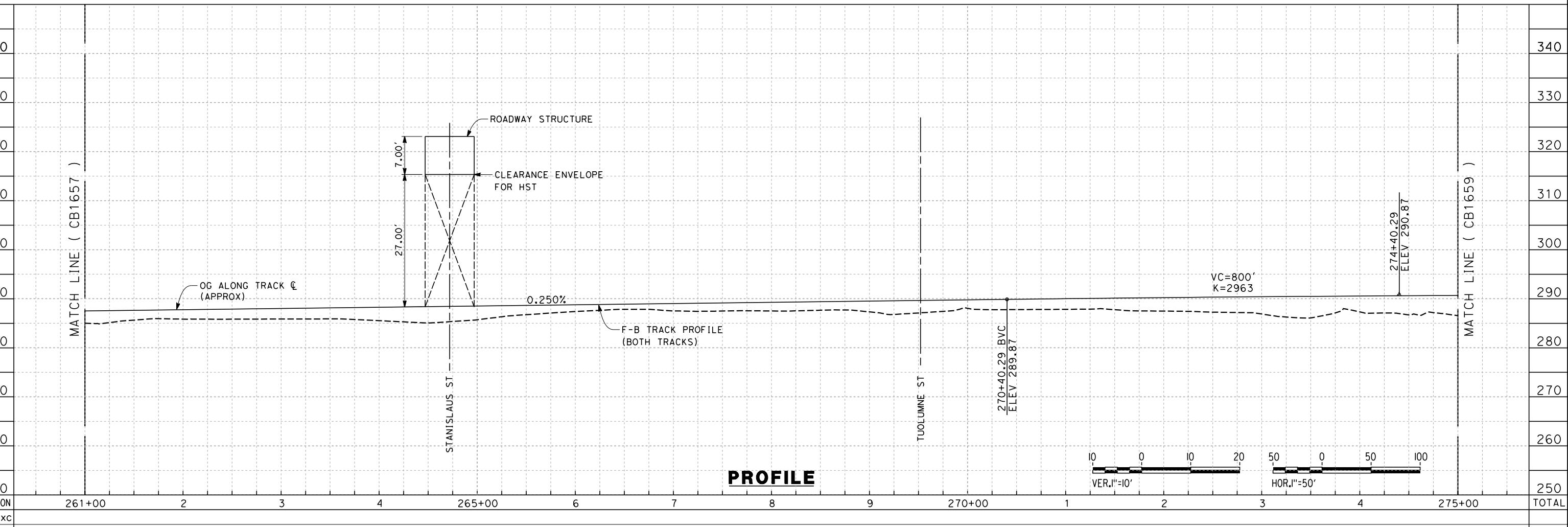
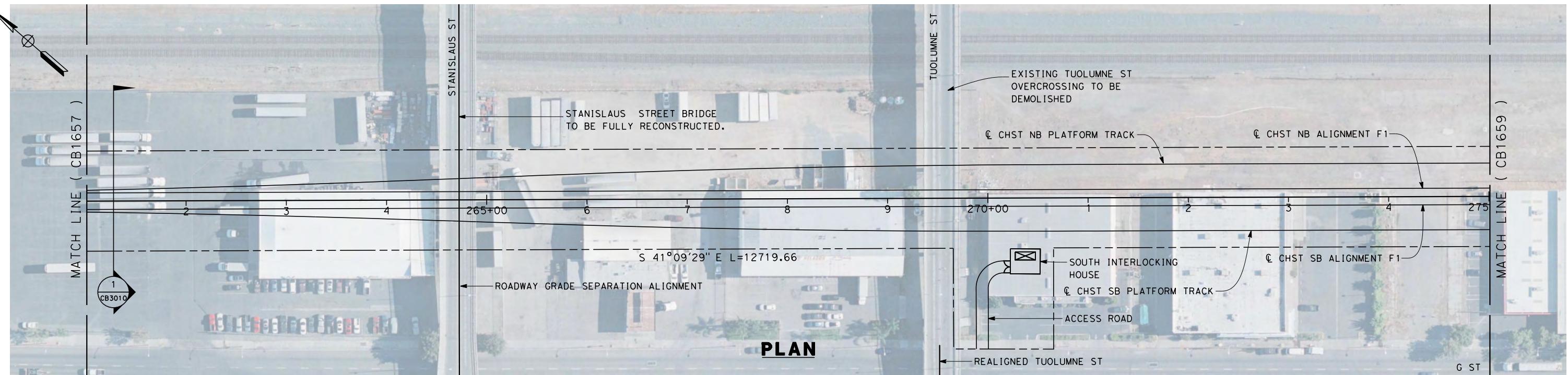
DESIGNED BY
K. SEYMORE
DRAWN BY
P. TONKIN
CHECKED BY
D. HUNT
IN CHARGE
R. COFFIN
DATE

RECORD SET 15%
DESIGN SUBMISSION
-
NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
FRESNO SUBSECTION
ALIGNMENT F1
STA. 257+24.56 TO 261+00
PLAN AND PROFILE

CONTRACT NO.
HSR 06-0003
DRAWING NO.
CB1657
SCALE
AS SHOWN
SHEET NO.
2 OF 23



REV	DATE	BY	CHK	APP	DESCRIPTION
					04/03/12

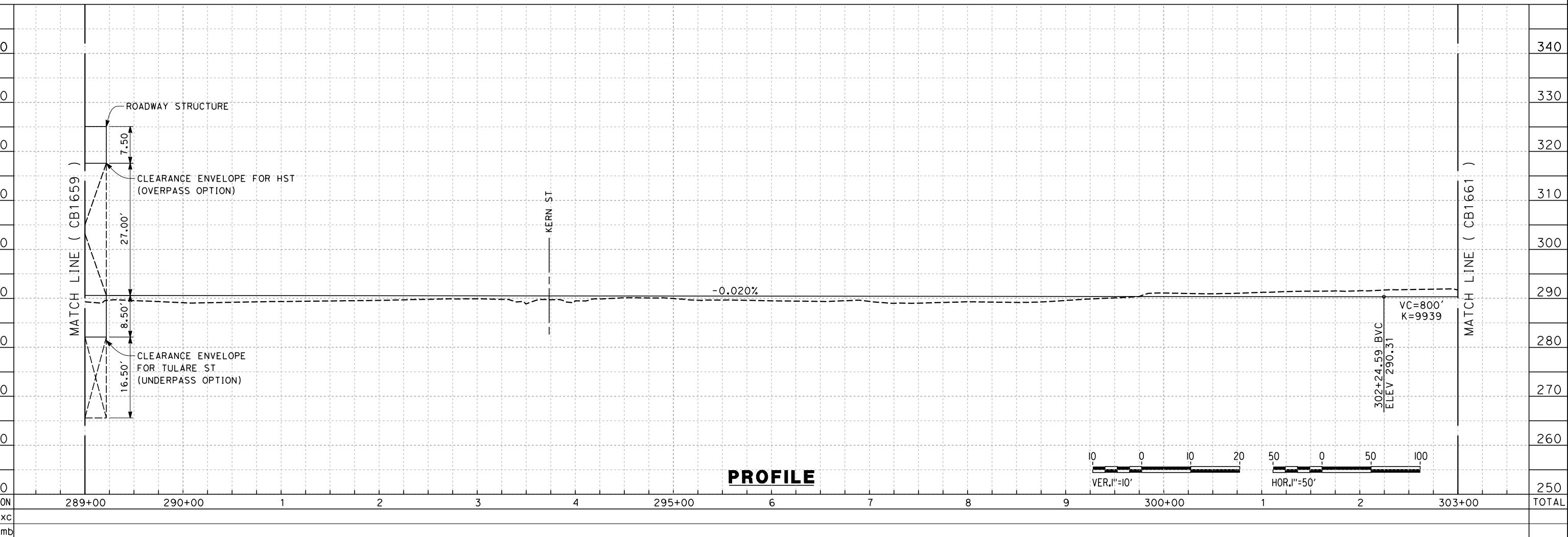
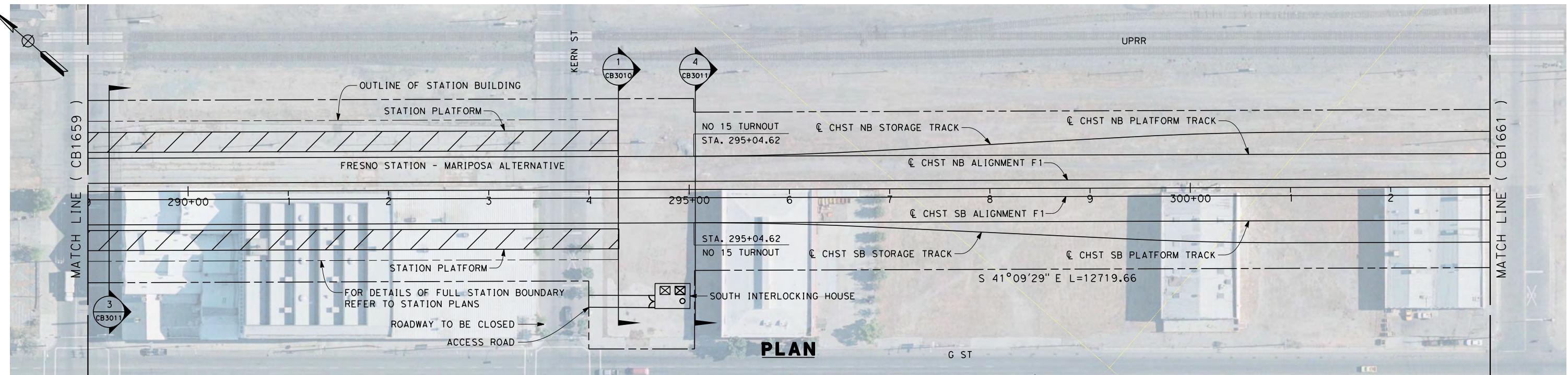
DESIGNED BY
K. SEYOUR
DRAWN BY
P. TONKIN
CHECKED BY
D. HUNT
IN CHARGE
R. COFFIN
DATE
04/03/12

RECORD SET 15%
DESIGN SUBMISSION
-
NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
FRESNO SUBSECTION
ALIGNMENT F1
STA. 261+00 TO 275+00
PLAN AND PROFILE

CONTRACT NO.
HSR 06-0003
DRAWING NO.
CB1658
SCALE
AS SHOWN
SHEET NO.



REV	DATE	BY	CHK	APP	DESCRIPTION	02/15/12
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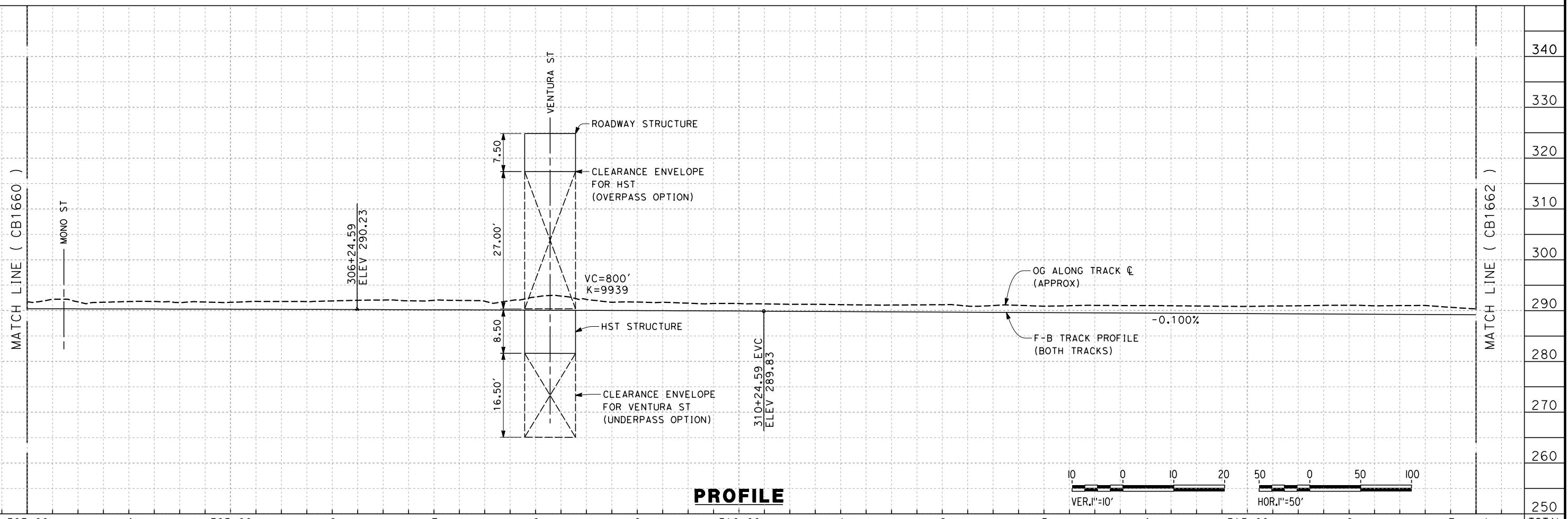
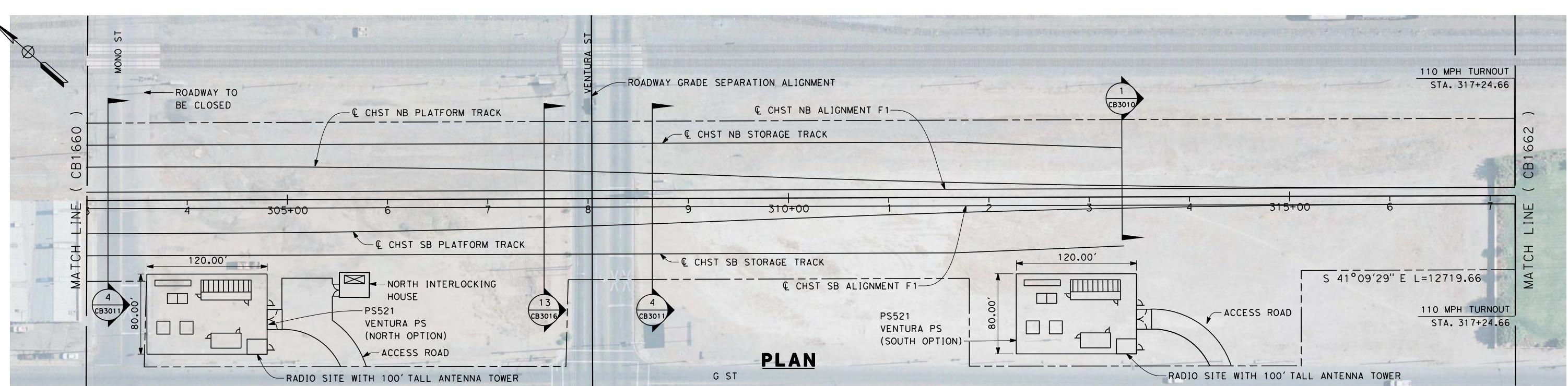
DESIGNED BY
K. SEYmour
DRAWN BY
P. TONKIN
CHECKED BY
D. HUNT
IN CHARGE
R. COFFIN
DATE
02/15/12

RECORD SET 15%
DESIGN SUBMISSION
-
NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
FRESNO SUBSECTION
ALIGNMENT F1
STA. 289+00 TO 303+00
PLAN AND PROFILE

CONTRACT NO.
HSR 06-0003
DRAWING NO.
CB1660
SCALE
AS SHOWN
SHEET NO.
5 OF 23



keith.seymour 4/3/2012

keith.

DESIGNED
K. SE
DRAWN BY
P. TO
CHECKED
D. HU
IN CHARGE
R. CO
DATE
04

R

RECORD SET 15

DESIGN SUBMISSION

NOT FOR
CONSTRUCTION

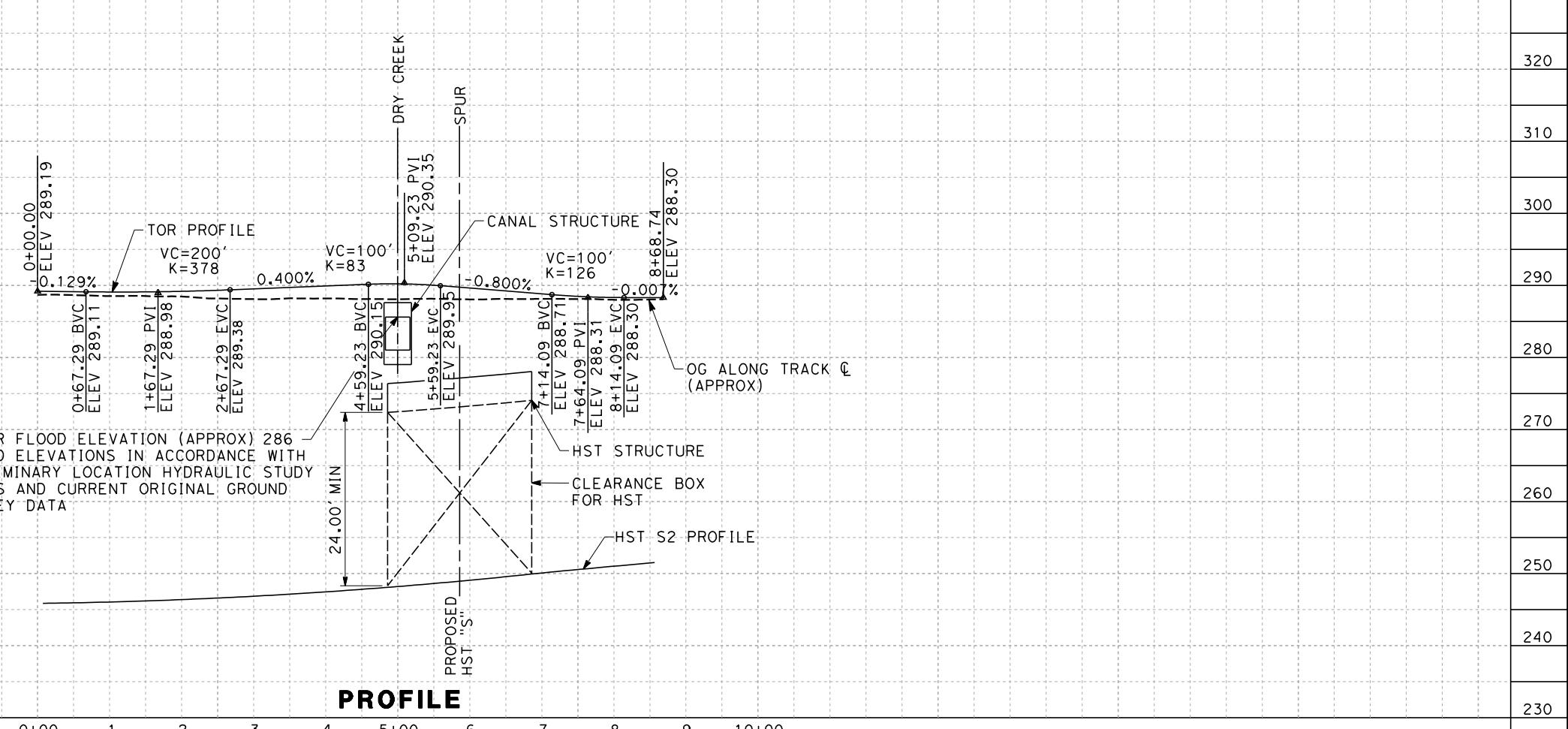
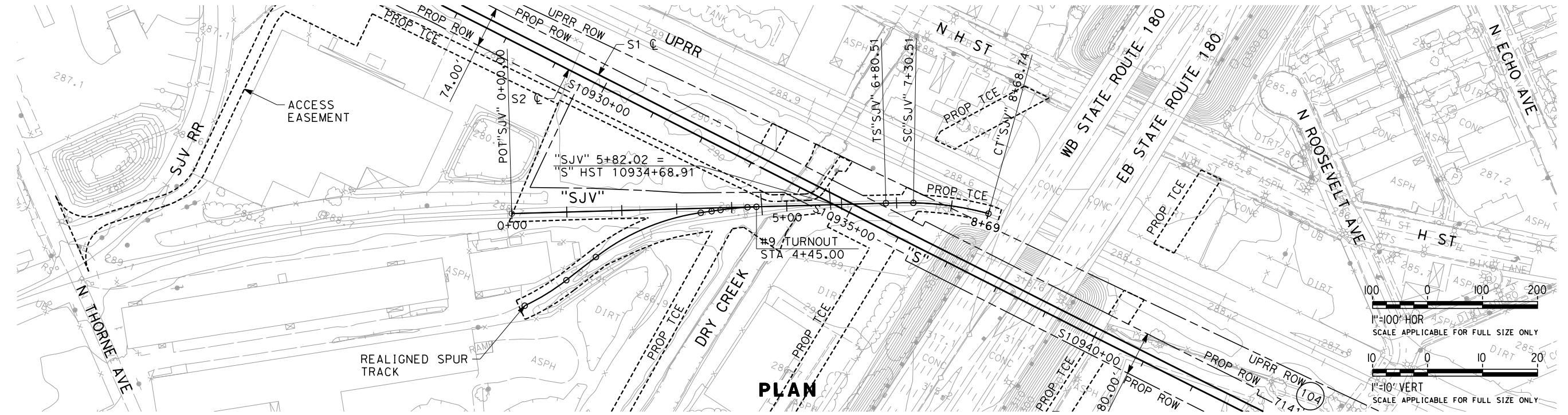
12



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD**

**FRESNO SUBSECTION
ALIGNMENT F1
STA. 303+00 TO 317+25
PLAN AND PROFILE**

CONTRACT NO.
HSR 06-0003
DRAWING NO.
CB1661
SCALE
AS SHOWN
SHEET NO.



Paul. + tonkin 12 /

APP	

DESCRIPTION

ANSWER

100

K. SEYMO
DRAWN BY
P. TONKI
CHECKED BY
D. HUNT
IN CHARGE
R. COFFI
DATE 12/08

3/11

**PROPOSAL
PRELIMINARY
DESIGN
NOT FOR
CONSTRUCTION**

SED
IARY
N
OR
CTION

The logo for URS | HMM | ARUP features the company names in a bold, sans-serif font. To the left of the text is a graphic of the state of California, with a high-speed train line drawn through it, extending from the San Francisco Bay Area towards the San Joaquin Valley. The word "CALIFORNIA" is written in a smaller, all-caps font below the state outline, and "HIGH-SPEED" is written in a smaller font to the right of the train line.





CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT
SIERRA SUBDIVISION
PACKAGE 1A
SJVRR SOUTH SPUR
PLAN AND PROFILE
STA. 00+00 TO 8+68.74**

CONTRACT NO.
DRAWING NO.
TT-D1030
SCALE
AS SHOWN
SHEET NO.